GE Healthcare

Docking Cart

Docking Cart Service Manual

Part Number: 5191399-100
Revision: 12

Important Precautions

WARNING (EN)

THIS SERVICE MANUAL IS AVAILABLE IN ENGLISH ONLY.

- **IF A CUSTOMER'S SERVICE PROVIDER REQUIRES A LANGUAGE OTHER THAN ENGLISH, IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE TRANSLATION SERVICES.**
- **DO NOT ATTEMPT TO SERVICE THE EQUIPMENT UNLESS THIS SERVICE MANUAL HAS BEEN CONSULTED AND IS UNDERSTOOD.**
- **FAILURE TO HEED THIS WARNING MAY RESULT IN INJURY TO THE SERVICE PROVIDER, OPERATOR OR PATIENT FROM ELECTRIC SHOCK, MECHANICAL OR OTHER HAZARDS.**

AVERTISSEMENT (FR)

CE MANUEL DE MAINTENANCE N'EST DISPONIBLE QU'EN ANGLAIS.

- **SI LE TECHNICIEN DU CLIENT A BESOIN DE CE MANUEL DANS UNE AUTRE LANGUE QUE L'ANGLAIS, C'EST AU CLIENT QU'IL INCOMBE DE LE FAIRE TRADUIRE.**
- **NE PAS TENTER D'INTERVENTION SUR LES éQUIPEMENTS TANT QUE LE MANUEL SERVICE N'A PAS éTé CONSULTé ET COMPRIS.**
- **LE NON-RESPECT DE CET AVERTISSEMENT PEUT ENTRAîNER CHEZ LE TECHNICIEN, L'OPéRATEUR OU LE PATIENT DES BLESSURES DUES à DES DANGERS éLECTRIQUES, MéCANIQUES OU AUTRES.**

WARNUNG (DE)

DIESES KUNDENDIENST-HANDBUCH EXISTIERT NUR IN ENGLISCHER SPRACHE.

- **FALLS EIN FREMDER KUNDENDIENST EINE ANDERE SPRACHE BENö TIGT, IST ES AUFGABE DES KUNDEN FüR EINE ENTSPRECHENDE ÜBERSETZUNG ZU SORGEN.**
- **VERSUCHEN SIE NICHT, DAS GERäT ZU REPARIEREN, BEVOR DIESES KUNDENDIENST-HANDBUCH NICHT ZU RATE GEZOGEN UND VERSTANDEN WURDE.**
- **WIRD DIESE WARNUNG NICHT BEACHTET, SO KANN ES ZU VERLETZUNGEN DES KUNDENDIENSTTECHNIKERS, DES BEDIENERS ODER DES PATIENTEN DURCH ELEKTRISCHE SCHLäGE, MECHANISCHE ODER SONSTIGE GEFAHREN KOMMEN.**

AVISO (ES)

ESTE MANUAL DE SERVICIO SÓLO EXISTE EN INGLÉS.

- **SI ALGÚN PROVEEDOR DE SERVICIOS AJENO A GEHC SOLICITA UN IDIOMA QUE NO SEA EL INGLÉS, ES RESPONSABILIDAD DEL CLIENTE OFRECER UN SERVICIO DE TRADUCCIÓN.**
- **NO SE DEBERÁ DAR SERVICIO TÉCNICO AL EQUIPO, SIN HABER CONSULTADO Y COMPRENDIDO ESTE MANUAL DE SERVICIO.**
- **LA NO OBSERVANCIA DEL PRESENTE AVISO PUEDE DAR LUGAR A QUE EL PROVEEDOR DE SERVICIOS, EL OPERADOR O EL PACIENTE SUFRAN LESIONES PROVOCADAS POR CAUSAS ELÉCTRICAS, MECÁNICAS O DE OTRA NATURALEZA.**

ATENÇÃO (PT-Br)

ESTE MANUAL DE ASSISTÊNCIA TÉCNICA SÓ SE ENCONTRA DISPONÍVEL EM INGLÊS.

- **SE QUALQUER OUTRO SERVIÇO DE ASSISTÊNCIA TÉCNICA, QUE NÃO A GEHC, SOLICITAR ESTES MANUAIS NOUTRO IDIOMA, É DA RESPONSABILIDADE DO CLIENTE FORNECER OS SERVIÇOS DE TRADUÇÃO.**
- **NÃO TENTE REPARAR O EQUIPAMENTO SEM TER CONSULTADO E COMPREENDIDO ESTE MANUAL DE ASSISTÊNCIA TÉCNICA.**
- **O NÃO CUMPRIMENTO DESTE AVISO PODE POR EM PERIGO A SEGURANÇA DO TÉCNICO, OPERADOR OU PACIENTE DEVIDO A' CHOQUES ELÉTRICOS, MECÂNICOS OU OUTROS.**

AVISO (PT-pt)

ESTE MANUAL DE ASSISTÊNCIA ESTÁ DISPONÍVEL APENAS EM INGLÊS.

- **SE QUALQUER OUTRO SERVIÇO DE ASSISTÊNCIA TÉCNICA, QUE NÃO A GEHC, SOLICITAR ESTES MANUAIS NOUTRO IDIOMA, É DA RESPONSABILIDADE DO CLIENTE FORNECER OS SERVIÇOS DE TRADUÇÃO.**
- **NÃO TENTE EFECTUAR REPARAÇÕES NO EQUIPAMENTO SEM TER CONSULTADO E COMPREENDIDO PREVIAMENTE ESTE MANUAL.**
- **A INOBSERVÂNCIA DESTE AVISO PODE RESULTAR EM FERIMENTOS NO TÉCNICO DE ASSISTÊNCIA, OPERADOR OU PACIENTE EM CONSEQUÊNCIA DE CHOQUE ELÉCTRICO, PERIGOS DE ORIGEM MECÂNICA, BEM COMO DE OUTROS TIPOS.**

AVVERTENZA (IT)

IL PRESENTE MANUALE DI MANUTENZIONE è DISPONIBILE SOLTANTO IN INGLESE.

- **SE UN ADDETTO ALLA MANUTENZIONE ESTERNO ALLA GEHC RICHIEDE IL MANUALE IN UNA LINGUA DIVERSA, IL CLIENTE è TENUTO A PROVVEDERE DIRETTAMENTE ALLA TRADUZIONE.**
- **SI PROCEDA ALLA MANUTENZIONE DELL'APPARECCHIATURA SOLO DOPO AVER CONSULTATO IL PRESENTE MANUALE ED AVERNE COMPRESO IL CONTENUTO.**
- **NON TENERE CONTO DELLA PRESENTE AVVERTENZA POTREBBE FAR COMPIERE OPERAZIONI DA CUI DERIVINO LESIONI ALL'ADDETTO ALLA MANUTENZIONE, ALL'UTILIZZATORE ED AL PAZIENTE PER FOLGORAZIONE ELETTRICA, PER URTI MECCANICI OD ALTRI RISCHI.**

HOIATUS (ET)

KÄESOLEV TEENINDUSJUHEND ON SAADAVAL AINULT INGLISE KEELES.

- **KUI KLIENDITEENINDUSE OSUTAJA NÕUAB JUHENDIT INGLISE KEELEST ERINEVAS KEELES, VASTUTAB KLIENT TÕLKETEENUSE OSUTAMISE EEST.**
- **ÄRGE ÜRITAGE SEADMEID TEENINDADA ENNE EELNEVALT KÄESOLEVA TEENINDUSJUHENDIGA TUTVUMIST JA SELLEST ARU SAAMIST.**
- **KÄESOLEVA HOIATUSE EIRAMINE VÕIB PÕHJUSTADA TEENUSEOSUTAJA, OPERAATORI VÕI PATSIENDI VIGASTAMIST ELEKTRILÖÖGI, MEHAANILISE VÕI MUU OHU TAGAJÄRJEL.**

VAROITUS (FI)

TÄMÄ HUOLTO-OHJE ON SAATAVILLA VAIN ENGLANNIKSI.

- **JOS ASIAKKAAN PALVELUNTARJOAJA VAATII MUUTA KUIN ENGLANNINKIELISTÄ MATERIAALIA, TARVITTAVAN KÄÄNNÖKSEN HANKKIMINEN ON ASIAKKAAN VASTUULLA.**
- **ÄLÄ YRITÄ KORJATA LAITTEISTOA ENNEN KUIN OLET VARMASTI LUKENUT JA YMMÄRTÄNYT TÄMÄN HUOLTO-OHJEEN.**
- **MIKÄLI TÄTÄ VAROITUSTA EI NOUDATETA, SEURAUKSENA VOI OLLA PALVELUNTARJOAJAN, LAITTEISTON KÄYTTÄJÄN TAI POTILAAN VAHINGOITTUMINEN SÄHKÖISKUN, MEKAANISEN VIAN TAI MUUN VAARATILANTEEN VUOKSI.**

ΠΡΟΕΙΔΟΠΟΙΗΣΗ (EL)

ΤΟ ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΣΕΡΒΙΣ ΔΙΑΤΙΘΕΤΑΙ ΣΤΑ ΑΓΓΛΙΚΑ ΜΟΝΟ.

- **ΕΑΝ ΤΟ ΑΤΟΜΟ ΠΑΡΟΧΗΣ ΣΕΡΒΙΣ ΕΝΟΣ ΠΕΛΑΤΗ ΑΠΑΙΤΕΙ ΤΟ ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΣΕ ΓΛΩΣΣΑ ΕΚΤΟΣ ΤΩΝ ΑΓΓΛΙΚΩΝ, ΑΠΟΤΕΛΕΙ ΕΥΘΥΝΗ ΤΟΥ ΠΕΛΑΤΗ ΝΑ ΠΑΡΕΧΕΙ ΥΠΗΡΕΣΙΕΣ ΜΕΤΑΦΡΑΣΗΣ.**
- **ΜΗΝ ΕΠΙΧΕΙΡΗΣΕΤΕ ΤΗΝ ΕΚΤΕΛΕΣΗ ΕΡΓΑΣΙΩΝ ΣΕΡΒΙΣ ΣΤΟΝ ΕΞΟΠΛΙΣΜΟ ΕΚΤΟΣ ΕΑΝ ΕΧΕΤΕ ΣΥΜΒΟΥΛΕΥΤΕΙ ΚΑΙ ΕΧΕΤΕ ΚΑΤΑΝΟΗΣΕΙ ΤΟ ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΣΕΡΒΙΣ.**
- **ΕΑΝ ΔΕ ΛΑΒΕΤΕ ΥΠΟΨΗ ΤΗΝ ΠΡΟΕΙΔΟΠΟΙΗΣΗ ΑΥΤΗ, ΕΝΔΕΧΕΤΑΙ ΝΑ ΠΡΟΚΛΗΘΕΙ ΤΡΑΥΜΑΤΙΣΜΟΣ ΣΤΟ ΑΤΟΜΟ ΠΑΡΟΧΗΣ ΣΕΡΒΙΣ, ΣΤΟ ΧΕΙΡΙΣΤΗ Ή ΣΤΟΝ ΑΣΘΕΝΗ ΑΠΟ ΗΛΕΚΤΡΟΠΛΗΞΙΑ, ΜΗΧΑΝΙΚΟΥΣ Ή ΑΛΛΟΥΣ ΚΙΝΔΥΝΟΥΣ.**

FIGYELMEZTETÉS (HU)

EZEN KARBANTARTÁSI KÉZIKÖNYV KIZÁRÓLAG ANGOL NYELVEN ÉRHETŐ EL.

- **HA A VEVŐ SZOLGÁLTATÓJA ANGOLTÓL ELTÉRŐ NYELVRE TART IGÉNYT, AKKOR A VEVŐ FELELŐSSÉGE A FORDÍTÁS ELKÉSZÍTTETÉSE.**
- **NE PRÓBÁLJA ELKEZDENI HASZNÁLNI A BERENDEZÉST, AMÍG A KARBANTARTÁSI KÉZIKÖNYVBEN LEÍRTAKAT NEM ÉRTELMEZTÉK.**
- **EZEN FIGYELMEZTETÉS FIGYELMEN KÍVÜL HAGYÁSA A SZOLGÁLTATÓ, MŰKÖDTETŐ VAGY A BETEG ÁRAMÜTÉS, MECHANIKAI VAGY EGYÉB VESZÉLYHELYZET MIATTI SÉRÜLÉSÉT EREDMÉNYEZHETI.**

VIÐVÖRUN (IS)

ÞESSI ÞJÓNUSTUHANDBÓK ER EINGÖNGU FÁANLEG Á ENSKU.

- **EF ÞJÓNUSTUAÐILI VIÐSKIPTAMANNS ÞARFNAST ANNARS TUNGUMÁLS EN ENSKU, ER ÞAÐ Á ÁBYRGÐ VIÐSKIPTAMANNS AÐ ÚTVEGA ÞÝÐINGU.**
- **REYNIÐ EKKI AÐ ÞJÓNUSTA TÆKIÐ NEMA EFTIR AÐ HAFA SKOÐAÐ OG SKILIÐ ÞESSA ÞJÓNUSTUHANDBÓK.**
- **EF EKKI ER FARIÐ AÐ ÞESSARI VIÐVÖRUN GETUR ÞAÐ VALDIÐ MEIÐSLUM ÞJÓNUSTUVEITANDA, STJÓRNANDA EÐA SJÚKLINGS VEGNA RAFLOSTS, VÉLRÆNNAR EÐA ANNARRAR HÆTTU.**

VÝSTRAHA (CS)

TENTO SERVISNÍ NÁVOD EXISTUJE POUZE V ANGLICKÉM JAZYCE.

- **V PŘÍPADĚ, ŽE POSKYTOVATEL SLUŽEB ZÁKAZNÍKŮM POTŘEBUJE NÁVOD V JINÉM JAZYCE, JE ZAJIŠTĚNÍ PŘEKLADU DO ODPOVÍDAJÍCÍHO JAZYKA ÚKOLEM ZÁKAZNÍKA.**
- **NEPROVÁDĚJTE ÚDRŽBU TOHOTO ZAŘÍZENÍ, ANIŽ BYSTE SI PŘEČETLI TENTO SERVISNÍ NÁVOD A POCHOPILI JEHO OBSAH.**
- **V PŘÍPADĚ NEDODRŽOVÁNÍ TÉTO VÝSTRAHY MŮŽE DOJÍT ÚRAZU ELEKTRICKÁM PROUDEM PRACOVNÍKA POSKYTOVATELE SLUŽEB, OBSLUŽNÉHO PERSONÁLU NEBO PACIENTŮ VLIVEM ELEKTRICKÉHO PROUDU, RESPEKTIVE VLIVEM K RIZIKU MECHANICKÉHO POŠKOZENÍ NEBO JINÉMU RIZIKU.**

ADVARSEL (DA)

DENNE SERVICEMANUAL FINDES KUN PÅ ENGELSK.

- **HVIS EN KUNDES TEKNIKER HAR BRUG FOR ET ANDET SPROG END ENGELSK, ER DET KUNDENS ANSVAR AT SØRGE FOR OVERSÆTTELSE.**
- **FORSØG IKKE AT SERVICERE UDSTYRET MEDMINDRE DENNE SERVICEMANUAL ER BLEVET LÆST OG FORSTÅET.**
- **MANGLENDE OVERHOLDELSE AF DENNE ADVARSEL KAN MEDFØRE SKADE PÅ GRUND AF ELEKTRISK, MEKANISK ELLER ANDEN FARE FOR TEKNIKEREN, OPERATØREN ELLER PATIENTEN.**

WAARSCHUWING (NL)

DEZE ONDERHOUDSHANDLEIDING IS ENKEL IN HET ENGELS VERKRIJGBAAR.

- **ALS HET ONDERHOUDSPERSONEEL EEN ANDERE TAAL VEREIST, DAN IS DE KLANT VERANTWOORDELIJK VOOR DE VERTALING ERVAN.**
- **PROBEER DE APPARATUUR NIET TE ONDERHOUDEN VOORDAT DEZE ONDERHOUDSHANDLEIDING WERD GERAADPLEEGD EN BEGREPEN IS.**
- **INDIEN DEZE WAARSCHUWING NIET WORDT OPGEVOLGD, ZOU HET ONDERHOUDSPERSONEEL, DE OPERATOR OF EEN PATIËNT GEWOND KUNNEN RAKEN ALS GEVOLG VAN EEN ELEKTRISCHE SCHOK, MECHANISCHE OF ANDERE GEVAREN.**

BRĪDINĀJUMS (LV)

šĪ APKALPES ROKASGRĀMATA IR PIEEJAMA TIKAI ANGĻU VALODĀ.

- **JA KLIENTA APKALPES SNIEDZĒJAM NEPIECIEŠAMA INFORMĀCIJA CITĀ VALODĀ, NEVIS ANGĻU, KLIENTA PIENĀKUMS IR NODROŠINĀT TULKOŠANU.**
- **NEVEICIET APRĪKOJUMA APKALPI BEZ APKALPES ROKASGRĀMATAS IZLASĪŠANAS UN SAPRAŠANAS.**
- **ŠĪ BRĪDINĀJUMA NEIEVĒROŠANA VAR RADĪT ELEKTRISKĀS STRĀVAS TRIECIENA, MEHĀNISKU VAI CITU RISKU IZRAISĪTU TRAUMU APKALPES SNIEDZĒJAM, OPERATORAM VAI PACIENTAM.**

ĮSPĖJIMAS (LT)

ŠIS EKSPLOATAVIMO VADOVAS YRA IŠLEISTAS TIK ANGLŲ KALBA.

- **JEI KLIENTO PASLAUGŲ TEIKĖJUI REIKIA VADOVO KITA KALBA – NE ANGLŲ, VERTIMU PASIRŪPINTI TURI KLIENTAS.**
- **NEMĖGINKITE ATLIKTI ĮRANGOS TECHNINĖS PRIEŽIŪROS DARBŲ, NEBENT VADOVAUTUMĖTĖS ŠIUO EKSPLOATAVIMO VADOVU IR JĮ SUPRASTUMĖTE**
- **NEPAISANT ŠIO PERSPĖJIMO, PASLAUGŲ TEIKĖJAS, OPERATORIUS AR PACIENTAS GALI BŪTI SUŽEISTAS DĖL ELEKTROS SMŪGIO, MECHANINIŲ AR KITŲ PAVOJŲ.**

ADVARSEL (NO)

DENNE SERVICEHÅNDBOKEN FINNES BARE PÅ ENGELSK.

- **HVIS KUNDENS SERVICELEVERANDØR TRENGER ET ANNET SPRÅK, ER DET KUNDENS ANSVAR Å SØRGE FOR OVERSETTELSE.**
- **IKKE FORSØK Å REPARERE UTSTYRET UTEN AT DENNE SERVICEHÅNDBOKEN ER LEST OG FORSTÅTT.**
- **MANGLENDE HENSYN TIL DENNE ADVARSELEN KAN FØRE TIL AT SERVICELEVERANDØREN, OPERATØREN ELLER PASIENTEN SKADES PÅ GRUNN AV ELEKTRISK STØT, MEKANISKE ELLER ANDRE FARER.**

OSTRZEŻENIE (PL)

NINIEJSZY PODRĘCZNIK SERWISOWY DOSTĘPNY JEST JEDYNIE W JĘZYKU ANGIELSKIM.

- **JEśLI FIRMA śWIADCZĄCA KLIENTOWI USŁUGI SERWISOWE WYMAGA UDOSTęPNIENIA PODRęCZNIKA W JęZYKU INNYM NIŻ ANGIELSKI, OBOWIĄZEK ZAPEWNIENIA STOSOWNEGO TŁUMACZENIA SPOCZYWA NA KLIENCIE.**
- **NIE PRóBOWAć SERWISOWAć NINIEJSZEGO SPRZęTU BEZ UPRZEDNIEGO ZAPOZNANIA SIę Z PODRęCZNIKIEM SERWISOWYM.**
- **NIEZASTOSOWANIE SIę DO TEGO OSTRZEŻENIA MOżE GROZIć OBRAŻENIAMI CIAłA SERWISANTA, OPERATORA LUB PACJENTA W WYNIKU PORAŻENIA PRĄDEM, URAZU MECHANICZNEGO LUB INNEGO RODZAJU ZAGROŻEń.**

ATENȚIE (RO)

ACEST MANUAL DE SERVICE ESTE DISPONIBIL NUMAI ÎN LIMBA ENGLEZĂ.

- **DACĂ UN FURNIZOR DE SERVICII PENTRU CLIENȚI NECESITĂ O ALTĂ LIMBĂ DECÂT CEA ENGLEZĂ, ESTE DE DATORIA CLIENTULUI SĂ FURNIZEZE O TRADUCERE.**
- **NU ÎNCERCAȚI SĂ REPARAȚI ECHIPAMENTUL DECÂT ULTERIOR CONSULTĂRII ŞI ÎNȚELEGERII ACESTUI MANUAL DE SERVICE.**
- **IGNORAREA ACESTUI AVERTISMENT AR PUTEA DUCE LA RĂNIREA DEPANATORULUI, OPERATORULUI SAU PACIENTULUI ÎN URMA PERICOLELOR DE ELECTROCUTARE, MECANICE SAU DE ALTĂ NATURĂ.**

ОСТОРОЖНО! (RU)

Данное руководство по обслуживанию ПРЕДОСТАВЛЯЕТСЯ только на английском Языке.

- **Если сервисноМУ ПЕРСОНАЛУ клиента необходимо руководство не на английском ЯЗЫКЕ, клиенту следует самостоЯтельно ОБЕСПЕЧИТЬ перевод.**
- **ПЕРЕД ОБСЛУЖИВАНИЕМ ОБОРУДОВАНИЯ ОБЯЗАТЕЛЬНО ОБРАТИТЕСЬ К ДАННОМУ РУКОВОДСТВУ И ПОЙМИТЕ ИЗЛОЖЕННЫЕ В НЕМ СВЕДЕНИЯ.**
- **НЕСОБЛЮДЕНИЕ УКАЗАННЫХ ТРЕБОВАНИЙ МОЖЕТ ПРИВЕСТИ К ТОМУ, ЧТО СПЕЦИАЛИСТ ПО ТЕХОБСЛУЖИВАНИЮ, ОПЕРАТОР ИЛИ ПАЦИЕНТ ПОЛУЧАТ УДАР ЗЛЕКТРИЧЕСКИМ ТОКОМ, МЕХАНИЧЕСКУЮ ТРАВМУ ИЛИ ДРУГОЕ ПОВРЕЖДЕНИЕ.**

ПРЕДУПРЕЖДЕНИЕ (BG)

ТОВА СЕРВИЗНО РЪКОВОДСТВО Е НАЛИЧНО САМО НА АНГЛИЙСКИ ЕЗИК.

- **АКО ДОСТАВЧИКЪТ НА СЕРВИЗНИ УСЛУГИ НА КЛИЕНТ СЕ НУЖДАЕ ОТ ЕЗИК, РАЗЛИЧЕН ОТ АНГЛИЙСКИ, ЗАДЪЛЖЕНИЕ НА КЛИЕНТА Е ДА ПРЕДОСТАВИ ПРЕВОДАЧЕСКА УСЛУГА.**
- **НЕ СЕ ОПИТВАЙТЕ ДА ИЗВЪРШВАТЕ СЕРВИЗНО ОБСЛУЖВАНЕ НА ТОВА ОБОРУДВАНЕ, ОСВЕН ВСЛУЧАЙ, ЧЕ СЕРВИЗНОТО РЪКОВОДСТВО Е ПРОЧЕТЕНО И СЕ РАЗБИРА.**
- **НЕСПАЗВАНЕТО НА ТОВА ПРЕДУПРЕЖДЕНИЕ МОЖЕ ДА ДОВЕДЕ ДО НАРАНЯВАНЕ НА ДОСТАВЧИКА НА СЕРВИЗНИ УСЛУГИ, НА ОПЕРАТОРА ИЛИ ПАЦИЕНТА ВСЛЕДСТВИЕНА ТОКОВ УДАР, МЕХАНИЧНИ ИЛИ ДРУГИ РИСКОВЕ.**

UPOZORENJE (SR)

OVAJ PRIRUČNIK ZA SERVISIRANJE DOSTUPAN JE SAMO NA ENGLESKOM JEZIKU.

- **AKO KLIJENTOV SERVISER ZAHTEVA JEZIK KOJI NIJE ENGLESKI, ODGOVORNOST JE NA KLIJENTU DA PRUŽI USLUGE PREVOĐENJA.**
- **NEMOJTE POKUŠAVATI DA SERVISIRATE OPREMU AKO NISTE PROČITALI I RAZUMELI PRIRUČNIK ZA SERVISIRANJE.**
- **AKO NE POŠTUJETE OVO UPOZORENJE, MOŽE DOĆI DO POVREĐIVANJA SERVISERA, OPERATERA ILI PACIJENTA UZROKOVANOG ELEKTRIČNIM UDAROM, MEHANIČKIM I DRUGIM OPASNOSTIMA.**

OPOZORILO (SL)

TA SERVISNI PRIROČNIK JE NA VOLJO SAMO V ANGLEŠČINI.

- **ČE PONUDNIK SERVISNIH STORITEV ZA STRANKO POTREBUJE NAVODILA V DRUGEM JEZIKU, JE ZA PREVOD ODGOVORNA STRANKA SAMA.**
- **NE POSKUŠAJTE SERVISIRATI OPREME, NE DA BI PREJ PREBRALI IN RAZUMELI SERVISNI PRIROČNIK.**
- **ČE TEGA OPOZORILA NE UPOŠTEVATE, OBSTAJA NEVARNOST ELEKTRIČNEGA UDARA, MEHANSKIH ALI DRUGIH NEVARNOSTI IN POSLEDIČNIH POŠKODB PONUDNIKA SERVISNIH STORITEV, UPORABNIKA OPREME ALI PACIENTA.**

UPOZORENJE (HR)

OVAJ SERVISNI PRIRUČNIK DOSTUPAN JE SAMO NA ENGLESKOM JEZIKU.

- **AKO KLIJENTOV SERVISER ZAHTIJEVA JEZIK KOJI NIJE ENGLESKI, ODGOVORNOST KLIJENTA JE PRUŽITI USLUGE PREVOĐENJA.**
- **NEMOJTE POKUŠAVATI SERVISIRATI OPREMU AKO NISTE PROČITALI I RAZUMJELI SERVISNI PRIRUČNIK.**
- **AKO NE POŠTUJETE OVO UPOZORENJE, MOŽE DOĆI DO OZLJEDE SERVISERA, OPERATERA ILI PACIJENTA PROUZROČENE STRUJNIM UDAROM, MEHANIČKIM I DRUGIM OPASNOSTIMA.**

UPOZORNENIE (SK)

TÁTO SERVISNÁ PRÍRUČKA JE K DISPOZíCII LEN V ANGLIČTINE.

- **AK ZÁKAZNÍKOV POSKYTOVATEĽ SLUŽIEB VYŽADUJE INÝ JAZYK AKO ANGLIČTINU, POSKYTNUTIE PREKLADATEĽSKÝCH SLUŽIEB JE ZODPOVEDNOSŤOU ZÁKAZNÍKA.**
- **NEPOKÚŠAJTE SA VYKONÁVAŤ SERVIS ZARIADENIA SKÔR, AKO SI NEPREČÍTATE SERVISNÚ PRÍRUČKU A NEPOROZUMIETE JEJ.**
- **ZANEDBANIE TOHTO UPOZORNENIA Môže VYÚSTIŤ DO ZRANENIA POSKYTOVATEĽA SLUŽIEB, OBSLUHUJúCEJ OSOBY ALEBO PACIENTA ELEKTRICKýM PRúDOM, PRÍPADNE DO MECHANICKéHO ALEBO INéHO NEBEZPEčENSTVA.**

VARNING (SV)

DEN HÄR SERVICEHANDBOKEN FINNS BARA TILLGÄNGLIG PÅ ENGELSKA.

- **OM EN KUNDS SERVICETEKNIKER HAR BEHOV AV ETT ANNAT SPRÅK ÄN ENGELSKA ANSVARAR KUNDEN FÖR ATT TILLHANDAHÅLLA ÖVERSÄTTNINGSTJÄNSTER.**
- **FÖRSÖK INTE UTFÖRA SERVICE PÅ UTRUSTNINGEN OM DU INTE HAR LÄST OCH FÖRSTÅR DEN HÄR SERVICEHANDBOKEN.**
- **OM DU INTE TAR HÄNSYN TILL DEN HÄR VARNINGEN KAN DET RESULTERA I SKADOR PÅ SERVICETEKNIKERN, OPERATÖREN ELLER PATIENTEN TILL FÖLJD AV ELEKTRISKA STÖTAR, MEKANISKA FAROR ELLER ANDRA FAROR.**

DİKKAT (TR)

BU SERVİS KILAVUZU YALNIZCA İNGİLİZCE OLARAK SAĞLANMIŞTIR.

- **EĞER MÜŞTERİ TEKNİSYENİ KILAVUZUN İNGİLİZCE DIŞINDAKİ BİR DİLDE OLMASINI İSTERSE, KILAVUZU TERCÜME ETTİRMEK MÜŞTERİNİN SORUMLULUĞUNDADIR.**
- **SERVİS KILAVUZUNU OKUYUP ANLAMADAN EKİPMANLARA MÜDAHALE ETMEYİNİZ.**
- **BU UYARININ GÖZ ARDI EDİLMESİ, ELEKTRİK ÇARPMASI YA DA MEKANİK VEYA DİĞER TÜRDEN KAZALAR SONUCUNDA TEKNİSYENİN, OPERATÖRÜN YA DA HASTANIN YARALANMASINA YOL AÇABİLİR.**

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WARNING ***Use all Personal Protection Equipment (PPE) such as gloves, safety shoes, safety glasses, and kneeling pad, to reduce the risk of injury.***

For a complete review of all safety requirements, see the Chapter 1, Safety Considerations section in the Service Manual.

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Revision History

Revision	Date	Reason for change
1	22. OCT. 2007	Initial Release.
1	October 09,2007	Initial Release
2	November 09,2007	Update replacement procedure
3	July 15,2008	Add FRU Replacement Function Check
4	Agust 12,2008	Add the Replacement Procedure for Touch Panel ASSY
5	October 30,2008	Update the Screw Type for Arm Supporter
6	February 04,2008	Add notes for UPS
7	April 14,2009	Update UPS installation process
8	May 19,2009	Update the Arm Installatin Procedure in Chapter 8 and add update Renewal Parts in Chapter 9
9	December 25,2009	Update UPS Installation Procedure in Chapter 3
10	June 30, 2010	Update for LOGIQ e R6.x.x release
11	Jan. 16, 2011	Update UPS installation process
11	Dec. 22, 2011	Update spare parts list

List of Effected Pages(LOEP)

Pages	Revision	Pages	Revision
Title Page	N/A	chapter 5 -Components and Function 5-1 to 5-4	12
Important Precautions i to ix	12	chapter 6 -Service Adjustment 6-1 to 6-6	12
Table of Contents 1 to 18	12	chapter 7 -Diagnostic/ Troubleshooting 7-1 to 7-11	12
Chapter 1 - Introduction 1-1 to 1-20	12	chapter 8 -Replacement Procedure 8-1 to 8-51	12
chapter 2-Pre-installation 2-1 to 2-8	12	chapter 9 -Renewal Parts 9-1 to 9-14	12
chapter 3-Docking Cart Setup 3-1 to 3-61	12	chapter 10 -Care & Maintenance 10-1 to 10-18	12
chapter 4 -Cart Using 4-1 to 4-8	12	Index A-1 to A-2	12

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Chapter 1 Introduction

Section 1-1 Overview

1-1-1 Purpose of Chapter 1

This chapter describes important issues related to safely servicing the Docking Cart. The service provider must read and understand all the information presented in this manual before installing or servicing a unit.

Table 1-1 Contents in Chapter 1

Section	Description	Page Number
1-1	Overview	1-1
1-3	Important Conventions	1-4
1-4	Safety Considerations	1-16
1-5	EMC, EMI, and ESD	1-22
1-6	Customer Assistance	1-23

1-1-2 Purpose of Service Manual

This Service Manual provides installation and service information for Docking Cart and contains the following chapters:

1.) **- Introduction:** Contains a content summary and warnings.
2.) **- Pre-Installation:** Contains pre-installation requirements for the Docking Cart.
3.) **- Docking Cart Setup:** Contains installation procedures.
4.) **- Cart using:** Contains functional checks that are recommended as part of the installation, or as required during servicing and periodic maintenance.
5.) **- Components and Functions (Theory):** Contains block diagrams and functional explanations of the electronics.
6.) **- Service Adjustments:** Contains instructions on how to make available adjustments to the Docking Cart.
7.) **- Diagnostics/Troubleshooting:** Provides procedures for running diagnostic or related routines for the Docking Cart.
8.) **- Replacement Procedures:** Provides disassembly procedures and reassembly procedures for all changeable Field Replaceable Units (FRU).
9.) **- Renewal Parts:** Contains a complete list of field replaceable parts for the Docking Cart.
10.) **- Care & Maintenance:** Provides periodic maintenance procedures for the Docking Cart.

1-1-3 Typical Users of the Basic Service Manual

- Service Personnel (installation, maintenance, etc.).
- Hospital's Service Personnel
- Contractors (Some parts of Chapter 2 - Pre-Installation)

1-1-4 Purpose of Operator Manual(s)

The Operator Manual(s) should be fully read and understood before operating Docking Cart and also kept near the unit for quick reference.

Section 1-2General Caution

⚠ **CAUTION** Standard maintenance must be performed by authorized service personnel for the lifetime of the product (7 years).

⚠ **CAUTION** Proceed cautiously when crossing door or elevator thresholds with Docking Cart or Isolation Cart. Use the handle to push/pull the system, e.g., do not use the Docking Cart external LCD. Failure to do so may cause serious injury or system damage.

⚠ **CAUTION** Capacity load of Docking Cart: The maximum capacity load of the Storage rack (1) is 2kg, DVD-RW Shelf (2) is 2kg, B/W Printer Shelf (3) is 4kg, Color Printer Shelf (4) is 7kg, and UPS Shelf (5) is 9kg, refer to the following figure.

Figure 1-1 Capacity Load of old Docking Cart

Section 1-2 General Caution (cont'd)

Figure 1-2 Capacity Load of new Docking Cart

Section 1-3
Important Conventions

1-3-1 Conventions Used in Book

Icons

Pictures, or icons, are used wherever they reinforce the printed message. The icons, labels and conventions used on the product and in the service information are described in this chapter.

Safety Precaution Messages

Various levels of safety precaution messages may be found on the equipment and in the service information. The different levels of concern are identified by a flag word that precedes the precautionary message. Known or potential hazards are labeled in one of following ways:

⚠ **DANGER** **DANGER IS USED TO INDICATE THE PRESENCE OF A HAZARD THAT WILL CAUSE SEVERE PERSONAL INJURY OR DEATH IF THE INSTRUCTIONS ARE IGNORED.**

⚠ **WARNING** ***WARNING IS USED TO INDICATE THE PRESENCE OF A HAZARD THAT CAN CAUSE SEVERE PERSONAL INJURY AND PROPERTY DAMAGE IF INSTRUCTIONS ARE IGNORED.***

⚠ **CAUTION** **Caution is used to indicate the presence of a hazard that will or can cause minor personal injury and property damage if instructions are ignored.**

⚠ **NOTICE** **Equipment Damage Possible**

Notice is used when a hazard is present that can cause property damage but has absolutely no personal injury risk.

*Example***:** Disk drive will crash.

NOTE: Notes provide important information about an item or a procedure. Information contained in a NOTE can often save you time or effort.

1-3-2 Standard Hazard Icons

Important information will always be preceded by the exclamation point contained within a triangle, as seen throughout this chapter. In addition to text, several different graphical icons (symbols) may be used to make you aware of specific types of hazards that could cause harm.

Table 1-2 Standard Hazard Icons

ELECTRICAL	MECHANICAL	RADIATION
LASER	**HEAT**	**PINCH**

Other hazard icons make you aware of specific procedures that should be followed.

Table 1-3 Standard Icons Indicating a Special Procedure Be Used

AVOID STATIC ELECTRICITY	TAG AND LOCK OUT	WEAR EYE PROTECTION

1-3-3 Product Icons

The following table describes the purpose and location of safety labels and other important information provided on the equipment

Table 1-4 Product Icons

LABEL/SYMBOL	PURPOSE/MEANING	LOCATION
Identification and Rating Plate	• Manufacture's name and address • Date of manufacture • Model and serial numbers • Electrical ratings (Volts, Amps, phase, and frequency)	Rear of console near power inlet Under monitor On each probe
Device Listing/Certification Labels	Laboratory logo or labels denoting conformance with industry safety standards such as UL or IEC.	Rear of console Under front of monitor
Type/Class Label	Used to indicate the degree of safety or protection.	
IP Code	Indicates the degree of protection provided by the enclosure per IEC 60529. IPX8 and IPX1 indicates drip proof.	Footswitch
	Authorized European Representative address	Bottom panel
	United States only Prescription Requirement label	Bottom panel
	Equipment Type BF (man in the box symbol) IEC 878-02-03 indicates B Type equipment having a floating applied part.	Probe connectors
	"CAUTION - Dangerous voltage" (the lightning flash with arrowhead in equilateral triangle) is used to indicate electric shock hazards.	Various
	"Protective Earth" indicates the protective earth (grounding) terminal.	Internal

Table 1-4 Product Icons

LABEL/SYMBOL	PURPOSE/MEANING	LOCATION
	"ON" indicates the power on position of the power switch. CAUTION This Power Switch DOES NOT ISOLATE Mains Supply	Stick to Power Switch
	"TUV" Listing and Certification Mark is used to designate conformance to nationally recognized product safety standards. The Mark bears the name and /or logo of the testing laboratory, product category, safety standard is assessed and a control number.	Bottom panel of the console
	Equipotentiality indicates the terminal to be used for connecting equipotential conductors when interconnecting (grounding) with other equipment.	Isolation transformator
	Indicates the product contains hazardous materials in excess of the limits established by Chinese standard SJ/T11363-2006 Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products. The number in the symbol is the Environment-friendly Use Period (EFUP), which indicates the period during which the toxic or hazardous substances or elements contained in electronic information products will not leak or mutate under normal operating conditions so that the use of such electronic information products will not result in any severe environmental pollution, any bodily injury or damage to any assets.	Rating Plate
	This product consists of devices that may contain mercury, which must be recycled or disposed of in accordance with local, state, or country laws. (Within this system, the backlight lamps in the monitor display, contain mercury.)	Back of the LCD/Touch Screen
	Serial number	Bottom of the Top Cover

Table 1-4 Product Icons

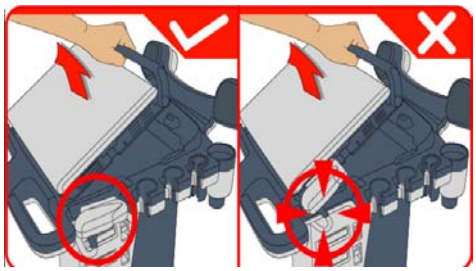
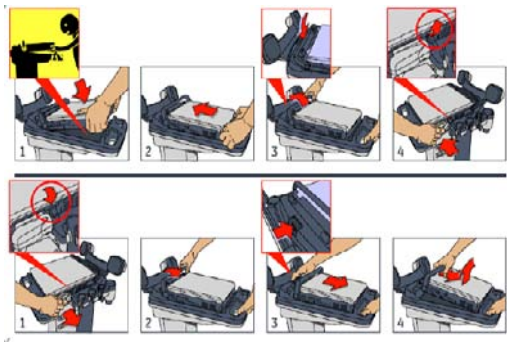
LABEL/SYMBOL	PURPOSE/MEANING	LOCATION
	Manufacture's name and address	Rating Plate
	Catalog or model number.	Rating Plate
	Disconnect the probe cable of three probe box while remove the system from Docking Cart Platform, otherwise the probe cable will be damaged.	Docking Cart Top Cover
	Guidance on how to connect or release to the Docking Cart. When put the system on docking cart top cover, avoid injuring the fingers and hands.Make sure the system's handle is locked well after connect to docking cart top cover.If connect the probe on the system, press the probe connector locking lever up. The procedure on how to release the system from docking cart top cover, refer to section 4-5-1 on page 3.	Docking Cart Top Cover
	Do not touch the joint between Articulatory Arm and Vertical Arm in order to avoid injuring hands or fingers.	Articulatory Arm

Table 1-4 Product Icons

LABEL/SYMBOL	PURPOSE/MEANING	LOCATION
	The symbol is affixed to a battery to advise the user or owner that it must be recycled or disposed of in accordance with local, state, or country laws. The letter below indicates the toxic element (Pb=Lead, Cd=Cadmium, Hg=Mercury) that is contained in the battery that may require special recycling or disposal methods. Please contact a GHGC representative to facilitate serving, removal and disposal options.	
	Type CF Defib-Proof Applied Part (heart in the box with paddle) symbolis in accordance with IEC 60878-02-06.	ECG Module
	“ATTENTION” - Consult accompanying documents” is intended to alert the user to refer to the operator manual or other instructions when complete information cannot be provided on the label.	Control panel and inside of console
	No hazardous substance, above the maximum concentration value, is present. Maximum concentration values for electronic information products, as set by the People’s Republic of China Electronic Industry Standard SJ/T11364-2006, include the hazardous substances of lead, mercury, hexavalent chromium, cadmium, polybrominated biphenyl (PBB), and polybrominated diphenyl ether (PBDE).	
	GOST Symbol. Russia Regulatory Country Clearance.	Bottom
	General Warning	Various
	Do not push the system.	Rear of Docking Cart

Table 1-4 Product Icons

LABEL/SYMBOL	PURPOSE/MEANING	LOCATION
	"Consult accompanying documents" is intended to alert the user to refer to the operator manual or other instructions when complete information cannot be provided on the label.	Various

1-3-4 WEEE Label

The following table describes the meaning of WEEE label and its translation provided on the equipment.

Table 1-5 WEEE Label

LABEL/SYMBOL	LANGUAGE	PURPOSE/MEANING
	English	This symbol indicates that the waste of electrical and electronic equipment must not be disposed as unsorted municipal waste and must be collected separately. Please contact an authorized representative of the manufacturer for information concerning the decommissioning of your equipment.
	Czech (CZE)	Tento symbol znamená, že díly elektrických nebo elektronických zařízení nesmí být likvidovány do netříděného odpadu, ale musí být likvidovány samostatně. Obraťte se prosím na autorizovaného představitele výrobce, který poskytne informace týkající se likvidace vašeho přístroje.
	Danish (DAN)	Dette symbol angiver, at elektrisk og elektronisk affald ikke må bortskaffes som usorteret brændbart affald, men skal indsamles særskilt. Kontakt venligst en autoriseret repræsentant for producenten for at få oplysninger om, hvordan dit udstyr skal bortskaffes.
	Dutch (DUT)	Dit symbool geeft aan dat het afval van elektrische en elektronische apparatuur niet ongescheiden mag worden meegegeven met het huisvuil, maar apart moet worden ingeleverd. Neem contact op met een erkende vertegenwoordiger van de fabrikant voor informatie over het inleveren van uw apparatuur.
	Catalan (CAT)	Aquest símbol indica que els residus dels equips elèctrics i electrònics s'han d'abocar per separat, no com a residus municipals no classificats. Contacteu amb un representant autoritzat del fabricant per obtenir informació sobre com desfer-vos del vostre equip.
	Chinese (CHN)	此符号表示电气和电子设备废弃物不能作为未分类的城市垃圾进行处置，必须另行回收。欲了解关于设备报废的信息，请与制造商授权代表联系。
	Estonian (EST)	See märk näitab, et tarbetuks muutunud elektri- ja elektroonikaseadmeid ei tohi ära visata sortimata olmejäätmetena, vaid need tuleb eraldi kokku koguda. Seadmete käitlemise kohta küsige lisateavet tootja volitatud esindajalt.

Table 1-5 WEEE Label

LABEL/SYMBOL	LANGUAGE	PURPOSE/MEANING
	Finnish (FIN)	Tämä kuvatunnus ilmaisee, että sillä merkittyä sähkö- ja elektroniikkalaitetta ei saa hävittää lajittelemattomana yhdyskuntajätteenä vaan se on kerättävä talteen erikseen. Ota yhteyttä tuotteen valmistajan valtuuttamaan myyntiedustajaan ja kysy lisätietoja laitteen käytöstä poistosta.
	French- France (FRA)	Ce symbole indique que les déchets relatifs à l'équipement électrique et électronique ne doivent pas être jetés comme les ordures ménagères non-triées et doivent être collectés séparément. Contactez un repré sentant agréé du fabricant pour obtenir des informations sur la mise au rebut de votre équipement.
	German (GER)	Dieses Symbol kennzeichnet elektrische und elektronische Geräte, die nicht mit dem gewöhnlichen, unsortierten Hausmüll entsorgt werden dü rfen, sondern separat behandelt werden müssen. Bitte nehmen Sie Kontakt mit einem autorisierten Beauftragten des Herstellers auf, um Informationen hinsichtlich der Entsorgung Ihres Gerätes zu erhalten.
	Greek (GRE)	Αυτό το σύμβολο υποδηλώνει ότι τα απόβλητα ηλεκτρικού και ηλεκτρονικού εξ οπλισμού δεν πρέπει να απορρίπτονται ως κοινά απορρίματα, αλλά να συλλέγον ται ξεχωριστά. Παρακαλούμε επικοινωνήστε με έναν εξουσιοδοτημένο αντιπρό σωπο του κατασκευαστή για πληροφορίες σχετικά με την απόρριψη του εξοπλισ μού.
	Hungarian (HUN)	A szimbólum azt jelzi, hogy az elektromos és elektronikus készülék hulladékát tilos nem szelektív lakossági hulladékként kezelni, hanem elkülönítve kell gyű jteni. Kérjük, a berendezés leselejtezését illetőleg lépjen kapcsolatba a gyártó hivatalos képviseletével.
	Icelandic (ICE)	Merki þetta táknar að rafeindatækjum skal eytt á sérstakan máta, ekki m á losa rafeindatæki í hefðbundin sorphirðuílát sem óflokkað sorp. Vinsamlega hafið samband við umboðsmann framleiðanda fyrir upplý singar um hvernig tækinu skal eytt.

Table 1-5 WEEE Label

LABEL/SYMBOL	LANGUAGE	PURPOSE/MEANING
	Italian (ITA)	Questo simbolo indica che i rifiuti derivanti da apparecchiature elettriche ed elettroniche non devono essere smaltiti come rifiuti municipali indifferenziati e devono invece essere raccolti separatamente. Per informazioni relative alle modalità di smantellamento delle apparecchiature fuori uso, contattare un rappresentante autorizzato del fabbricante.
	Japanese (JPN)	このシンボルは、電気・電子機器の廃棄物を地方自治体の無分別廃棄物として処分してはならず、別個に回収しなければならないということを示しています。ご使用の機器の廃棄方法に関しては、製造元の認可を受けた販売業者にご連絡下さい。
	Latvian (LAT)	Šis apzīmējums norāda, ka no elektriskā un elektroniskā aprīkojuma atkritumiem nedrīkst atbrīvoties kā no nešķirotiem mājsaimniecības atkritumiem un tie ir jāsavāc atsevišķi. Lūdzu, sazinieties ar pilnvarotu raž otāja pārstāvi, lai saņemtu informāciju par aprīkojuma ekspluatācijas pā rtraukšanu.
	Lithuanian (LIT)	Šis simbolis nurodo, kad elektros ir elektroninės įrangos atliekos turi būti surenkamos atskirai ir negali būti šalinamos kaip nerūšiuotos savivaldybė s tvarkomos atliekos. Informacijos apie įrangos veikimo sustabdymą kreipkitės į įgaliotąjį gamintojo atstovą.
	Norwegian (NOR)	Dette symbolet angir at elektrisk og elektronisk utstyr ikke skal kastes som restavfall, men må leveres inn separat. Ta kontakt med en autorisert representant for produsenten hvis du vil ha informasjon om hvordan utstyret skal avhendes.
	Polish (POL)	Ten symbol oznacza, iż składowanie zużytych urządzeń elektrycznych i elektronicznych wraz z ogólnymi odpadami miejskimi jest zabronione. Informacji na temat miejsc składowania tego typu odpadów udziela producent sprzętu.
	Portuguese-Brazilian (POB)	Este símbolo indica que os resíduos do equipamento elétrico e eletrônico não devem ser descartados no sistema de coleta de lixo municipal, e sim coletados separadamente. Favor entrar em contato com um representante autorizado do fabricante para obter informações sobre como descartar seu equipamento.

Table 1-5 WEEE Label

LABEL/SYMBOL	LANGUAGE	PURPOSE/MEANING
	Romanian (ROM)	Acest simbol indică faptul că deşeurile de echipamente electrice şi electronice nu au voie să fie aruncate nediferențiat ca gunoi menajer şi c ă ele trebuie colectate separat. Vă rugăm să luați legătura cu un reprezentant autorizat al producătorului pentru a obține informații referitoare la eliminarea ecologică a echipamentului dumneavoastră.
	Russian (RUS)	Символ обозначает: недопустимо выбрасывать электрическое и эле ктронное оборудование с неотсортированным бытовым мусором. Он о должно собираться отдельно. Для получения сведений об утилиза ции оборудования обратитесь к авторизованному представителю ко мпании-производителя.
	Serbian (SCC)	Ovaj simbol označava da se otpad električne i elektronske opreme ne sme odlagati zajedno sa običnim gradskim smećem, već se mora pokupiti posebno. Molimo vas da kontaktirate ovlašćenog predstavnika proizvođača svoje opreme, kako bi ste se informisali o njenom pravilnom rashodu.
	Slovakian (SLK)	Tento symbol označuje, že odpad elektrického a elektronického materiá lu sa nesmie vyhadzovať do netriedeného komunálneho odpadu, ale mus í sa likvidovať oddelene. Viac informácií o likvidácii vášho zariadenia vám poskytne poverený zástupca výrobcu.
	Slovenian (SLN)	Ta simbol obeležava da se elektronski otpad in elektronska oprema ne sme odlagati skup z navadnim mesnim otpadom, ter se mora pobrat posebej. Prosimo vas da kontaktirate pooblaščenega prodajalca opreme, kako bi se informirali o njenem pravilnem rashodu.
	Spanish-Spain (SPA)	Este símbolo indica que el equipo eléctrico y electrónico no debe tirarse con los desechos domésticos y debe tratarse por separado. Contacte con el representante local del fabricante para obtener más información sobre la forma de desechar el equipo.
	Swedish (SWE)	Denna symbol anger att elektriska och elektroniska utrustningar inte får avyttras som osorterat hushållsavfall och måste samlas in separat. Var god kontakta en auktoriserad tillverkarrepresentant för information angående avyttring av utrustningen.

Table 1-5 WEEE Label

LABEL/SYMBOL	LANGUAGE	PURPOSE/MEANING
	Turkish (TUR)	Bu sembol, elektrikli ve elektronik ekipmanların sınıflandırılmamış çöp olarak atılmaması ve ayrı olarak toplanması gerektiğini belirtir. Lütfen ekipmanınızın imhasıyla ilgili olarak üreticinin yetkili temsilcisine baş vurun.

Section 1-4
Safety Considerations

1-4-1 Introduction

The following safety precautions must be observed during all phases of operation, service and repair of this equipment. Failure to comply with these precautions or with specific warnings elsewhere in this manual, violates safety standards of design, manufacture and intended use of the equipment.

1-4-2 Human Safety

Servicing should be performed by authorized personnel only.
Only personnel who have participated in a Vivid e/LOGIQ e/LOGIQ e Vet Docking Cart Training are authorized to service the equipment.

CAUTION **When using Docking Cart, be careful the external LCD may hit person's head.**

1-4-3 Mechanical Safety

WARNING ***WHEN THE UNIT IS RAISED FOR A REPAIR OR MOVED ALONG ANY INCLINE, USE EXTREME CAUTION SINCE IT MAY BECOME UNSTABLE AND TIP OVER.***

WARNING ***ULTRASOUND PROBES ARE HIGHLY SENSITIVE MEDICAL INSTRUMENTS THAT CAN EASILY BE DAMAGED BY IMPROPER HANDLING. USE CARE WHEN HANDLING AND PROTECT FROM DAMAGE WHEN NOT IN USE. DO NOT USE A DAMAGED OR DEFECTIVE PROBE. FAILURE TO FOLLOW THESE PRECAUTIONS CAN RESULT IN SERIOUS INJURY AND EQUIPMENT DAMAGE.***

WARNING ***NEVER USE A PROBE THAT HAS FALLEN TO THE FLOOR. EVEN IF IT LOOKS OK, IT MAY BE DAMAGED.***

CAUTION **The Docking Cart weighs 53 kg (117 lbs). or more, depending on installed peripherals, when ready for use. Care must be used when moving it or replacing its parts. Failure to follow the precautions listed could result in injury, uncontrolled motion and costly damage.**

ALWAYS:

Be sure the pathway is clear.

Use slow, careful motions.

Use two people when moving on inclines or lifting more than 53 kg (117 lbs).

CAUTION **Make sure the console be fixed well to avoid the console falling down when moving Docking Cart.**

CAUTION **Do not move Docking Cart with big inclined angle.**

NOTICE **When using Docking Cart, avoid water and blood enter into Docking Cart.**

NOTICE **Put peripherals in correct position to avoid Docking Cart overload.**

1-4-3 Mechanical Safety (cont'd)

NOTE: Special care should be taken when transporting the unit in a vehicle:

- *Secure the unit in an upright position.*
- *Lock the wheels (brake)*

1-4-4 Electrical Safety

To minimize shock hazard, the equipment chassis must be connected to a safety ground. The system is equipped with a three-conductor AC power cable. This must be plugged into an approved electrical outlet with safety ground. The power outlet used for this equipment should not be shared with other types of equipment.

Both the system power cable and the power connector meet international electrical standards.

WARNING ***DO NOT SERVICE OR DISASSEMBLE PARTS UNDER FRU UNIT LEVEL AT ANY CIRCUMSTANCES.***

1-4-5 UPS safety (Only for Software R5.2.x, R6.x.x and R7.x.x)

To avoid the risk of injury, follow the warning and caution to make sure that the UPS does not burst, ignite, or generate heat of fumes.

WARNING

- ***Do not expose UPS to temperature over 60°C (140°F). Keep it away from fire and other heat sources.***
- ***Do not charge UPS near a heat source, such as a fire or heater.***
- ***Do not drop UPS from height to prevent them from possible malfunction damage.***

CAUTION

- **Indoor use only.**
- **Do not immerse the battery in water or allow it to get wet.**
- **For use in a controlled environment with a maximum ambient temperature of 33° C.**
- **Do not remove the cover of the UPS. No user serviceable parts inside.**
- **Do not open or muilate the UPS battery. Release electrolyte is harmful to the skin and eyes.**
- **For use in a controlled environment with a maximum ambient temperature of 33° C.**
- **Do not dispose of the UPS in a fire.**
- **Short term (less than one month) storage of battery pack:**
  - **Store the UPS in a temperature range between 0° C and 50° C.**
- **In case of the long term (3 months or more) storage:**
  - **Store the UPS in a temperature range of 0° C and 45° C.**
  - **When charging for the first time after long-term storage. Recover such packs to original performance through repeating several cycles of full charging and discharging.**
  - **When store packs for more than 6 months, charge at lease once charging require per 6 months to prevent leakage and deterioration in performance due to self-discharging.**
- **Do not discard the UPS or the UPS batteries as the UPS may have valve regulated, lead-acid batteries. Please recycle batteries.**

1-4-6 Label Locations

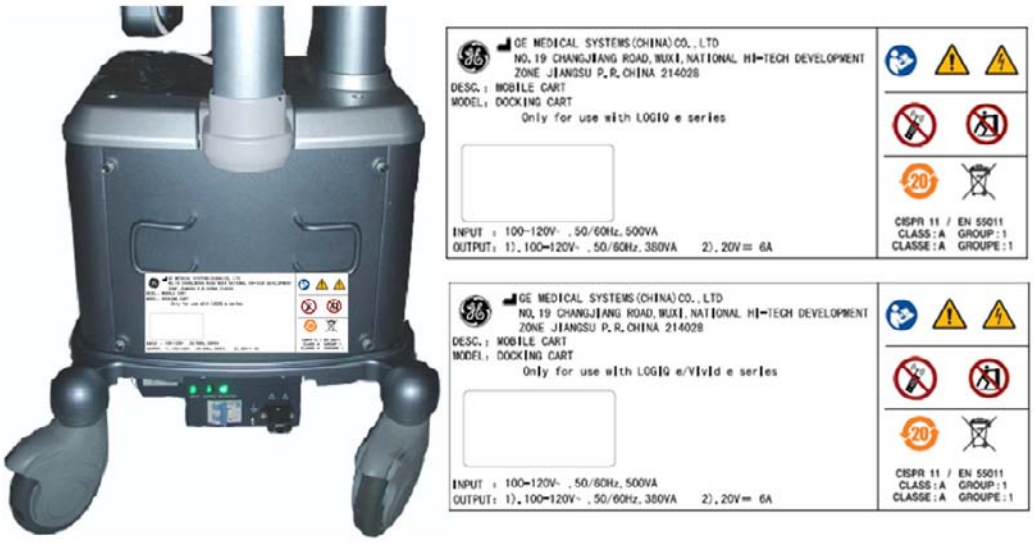

GE MEDICAL SYSTEMS(CHINA)CO., LTD
NO.19 CHANGJIANG ROAD, WUXI, NATIONAL HI-TECH DEVELOPMENT ZONE JIANGSU P.R.CHINA 214028
DESC.: MOBILE CART
MODEL: DOCKING CART
Only for use with LOGIQ e series
INPUT : 100-120V~ ,50/60Hz, 500VA
OUTPUT: 1).100-120V~ ,50/60Hz, 380VA 2).20V⎓ 6A
CISPR 11 / EN 55011
CLASS:A GROUP:1
CLASSE:A GROUPE:1
GE MEDICAL SYSTEMS(CHINA)CO., LTD
NO.19 CHANGJIANG ROAD, WUXI, NATIONAL HI-TECH DEVELOPMENT ZONE JIANGSU P.R.CHINA 214028
DESC.: MOBILE CART
MODEL: DOCKING CART
Only for use with LOGIQ e/Vivid e series
INPUT : 100-120V~ ,50/60Hz, 500VA
OUTPUT: 1).100-120V~ ,50/60Hz, 380VA 2).20V⎓ 6A
CISPR 11 / EN 55011
CLASS:A GROUP:1
CLASSE:A GROUPE:1

Figure 1-3 Docking Cart Identification and Rating Plate (for 100V-120V AC)

GE MEDICAL SYSTEMS(CHINA)CO., LTD
NO.19 CHANGJIANG ROAD, WUXI, NATIONAL HI-TECH DEVELOPMENT ZONE JIANGSU P.R.CHINA 214028
通用电气医疗系统（中国）有限公司
中国江苏省无锡市国家高新技术产业开发区长江路19号 邮编:214028
DESC.名称: MOBILE CART
MODEL.型号: DOCKING CART
Only for use with LOGIQ e series
仅用于与LOGIQ e系列配合使用
INPUT 输入： 220-240V~ ,50/60Hz, 500VA
OUTPUT输出： 1).220-240V~ ,50/60Hz, 380VA 2).20V⎓ 6A
CISPR 11 / EN 55011
CLASS:A GROUP:1
CLASSE:A GROUPE:1
GE MEDICAL SYSTEMS(CHINA)CO., LTD
NO.19 CHANGJIANG ROAD, WUXI, NATIONAL HI-TECH DEVELOPMENT ZONE JIANGSU P.R.CHINA 214028
通用电气医疗系统（中国）有限公司
中国江苏省无锡市国家高新技术产业开发区长江路19号 邮编:214028
DESC.名称: MOBILE CART
MODEL.型号: DOCKING CART
Only for use with LOGIQ e/Vivid e series
仅用于与LOGIQ e/Vivid e系列配合使用
INPUT 输入： 220-240V~ ,50/60Hz, 500VA
OUTPUT输出： 1).220-240V~ ,50/60Hz, 380VA 2).20V⎓ 6A
CISPR 11 / EN 55011
CLASS:A GROUP:1
CLASSE:A GROUPE:1

Figure 1-4 Docking Cart Identification and Rating Plate (for 220V-240V AC)

1.) Outside Marking of LOGIQ e/Vivid e series (For high and short cart)

- Identification and Rating Plate-220v-240v
- Identification and Rating Plate-100v-120v

2.) Outside Marking of LOGIQ e series (For high cart)

- Identification and Rating Plate-220v-240v
- Identification and Rating Plate-100v-120v

1-4-6 Label Locations (cont'd)

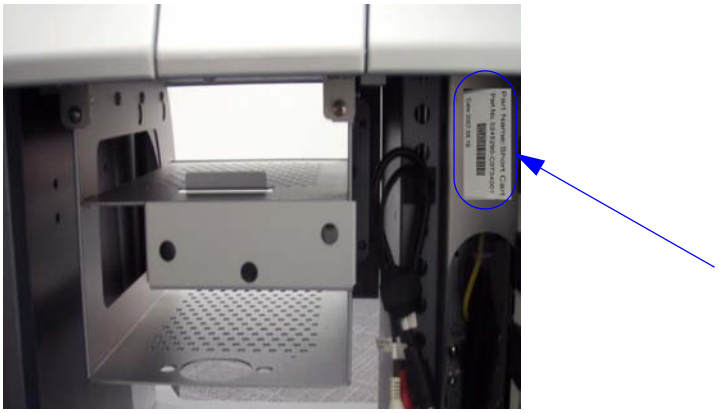


Figure 1-5 Serial Number Label

Figure 1-6 Warning Label (For Software R5.2.x, R6.x.x and R7.X.X)

Figure 1-7 Hg Label (For Software R5.2.x, R6.x.x and R7.X.X)

1-4-7 Dangerous Procedure Warnings

Warnings, such as the examples below, precede potentially dangerous procedures throughout this manual. Instructions contained in the warnings must be followed.

DANGER **DANGEROUS VOLTAGES, CAPABLE OF CAUSING DEATH, ARE PRESENT IN THIS EQUIPMENT. USE EXTREME CAUTION WHEN HANDLING, TESTING AND ADJUSTING.**

WARNING ***EXPLOSION WARNING***

DO NOT OPERATE THE EQUIPMENT IN AN EXPLOSIVE ATMOSPHERE. OPERATION OF ANY ELECTRICAL EQUIPMENT IN SUCH AN ENVIRONMENT CONSTITUTES A DEFINITE SAFETY HAZARD.

WARNING ***DO NOT SUBSTITUTE PARTS OR MODIFY EQUIPMENT***

BECAUSE OF THE DANGER OF INTRODUCING ADDITIONAL HAZARDS, DO NOT INSTALL SUBSTITUTE PARTS OR PERFORM ANY UNAUTHORIZED MODIFICATION OF THE EQUIPMENT.

1-4-8 Lockout/Tagout (LOTO) requirements

Follow OSHA Lockout/Tagout requirements (USA) or local Lockout/Tagout requirements by ensuring you are in total control of the AC power plug at all times during the service process.

To apply Lockout/Tagout:

1.) Plan and prepare for shutdown.
2.) Shutdown the equipment.
3.) Isolate the equipment.
4.) Apply Lockout/Tagout Devices.
5.) Remove battery.
6.) Control all stored and residual energy.
7.) Verify isolation.
All potentially hazardous stored or residual energy is relieved.

NOTICE Energy Control and Power Lockout for Docking Cart

WHEN SERVICING PARTS OF THE SYSTEM WHERE THERE IS EXPOSURE TO VOLTAGE GREATER THAN 30 VOLTS:
1. TURN OFF THE SCANNER.
2. UNPLUG THE SYSTEM.
3. MAINTAIN CONTROL OF THE SYSTEM POWER PLUG.
4. WAIT FOR AT LEAST 20 SECONDS FOR CAPACITORS TO DISCHARGE AS THERE ARE NO TEST POINTS TO VERIFY ISOLATION. THE AMBER LIGHT ON THE OP PANEL ON/OFF BUTTON WILL TURN OFF.
5. REMOVE THE SYSTEM BATTERY.

1-4-9 Returning/Shipping Probes and Repair Parts

Equipment being returned must be clean and free of blood and other infectious substances.

GEMS policy states that body fluids must be properly removed from any part or equipment prior to shipment. GEMS employees, as well as customers, are responsible for ensuring that parts/equipment have been properly decontaminated prior to shipment. Under no circumstance should a part or equipment with visible body fluids be taken or shipped from a clinic or site (for example, body coils or an ultrasound probe).

The purpose of the regulation is to protect employees in the transportation industry, as well as the people who will receive or open this package.

NOTE: The US Department of Transportation (DOT) has ruled that "items that were saturated and/or dripping with human blood that are now caked with dried blood; or which were used or intended for use in patient care" are "regulated medical waste" for transportation purposes and must be transported as a hazardous material.

NOTE: The USER/SERVICE staff should dispose all the waste properly as per federal, state, and local waste disposal regulation.

The ultrasound system is not meant to be used for long term storage of patient data or images. The user is responsible for the data on the system and a regular backup is highly recommended.

If the system is sent for repair, please ensure that any patient information is backed up and erased from the system before shipping. It is always possible during system failure and repair to lose patient data. GE is not responsible for the loss of this data.

Section 1-5
EMC, EMI, and ESD

1-5-1 Electromagnetic Compatibility (EMC)

Electromagnetic compatibility describes a level of performance of a device within its electromagnetic environment. This environment consists of the device itself and its surroundings including other equipment, power sources and persons with which the device must interface. Inadequate compatibility results when a susceptible device fails to perform as intended due interference from its environment or when the device produces unacceptable levels of emission to its environment. This interference is often referred to as radio–frequency or electromagnetic interference (RFI/EMI) and can be radiated through space or conducted over interconnecting power of signal cables. In addition to electromagnetic energy, EMC also includes possible effects from electrical fields, magnetic fields, electrostatic discharge and disturbances in the electrical power supply.

1-5-2 CE Compliance

The Docking Cart unit conforms to all applicable conducted and radiated emission limits and to immunity from electrostatic discharge, radiated and conducted RF fields, magnetic fields and power line transient requirements.

For applicable standards refer to the Safety Chapter in the Basic User Manual.

NOTE: ***For CE Compliance, it is critical that all covers, screws, shielding, gaskets, mesh, clamps, are in good condition, installed tightly without skew or stress. Proper installation following all comments noted in this service manual is required in order to achieve full EMC performance.***

1-5-3 Electrostatic Discharge (ESD) Prevention

⚠ **WARNING** ***DO NOT TOUCH ANY BOARDS WITH INTEGRATED CIRCUITS PRIOR TO TAKING THE NECESSARY ESD PRECAUTIONS:***

1.FOLLOW GENERAL GUIDELINES FOR HANDLING OF ELECTROSTATIC SENSITIVE EQUIPMENT.

Section 1-6
Customer Assistance

1-6-1 Contact Information

If this equipment does not work as indicated in this service manual or in the User Manual, or if you require additional assistance, please contact the local distributor or appropriate support resource, as listed below.

Prepare the following information before you call:

- System ID serial number.

Table 1-6 Phone Numbers for Customer Assistance

Location	Phone Number
USA/ Canada GE Medical Systems Ultrasound Service Engineering 4855 W. Electric Avenue Milwaukee, WI 53219 Customer Answer Center	1-800–437–1171 1-800-682-5327 1-262-524-5698 Fax: +1-414-647-4125
Latin America GE Medical Systems Ultrasound Service Engineering 4855 W. Electric Avenue Milwaukee, WI 53219 Customer Answer Center	1-262-524-5300 1-262-524-5698 Fax: +1-414-647-4125
Europe GE Ultraschall Deutschland GmbH& Co. KG BeethovenstraBe 239 Postfach 11 05 60, D-42665 Solingen Germany	Tel: +49 212 2802 208 +49 212 2802 207 Fax: +49 212 2802 431
Asia (Singapore/ Japan) GE Ultrasound Asia Service Department - Ultrasound 298 Tiong Bahru Road #15-01/06 Central Plaza Singapore 169730	Tel: +65 291-8528 +81 426-482950 Fax: +65 272-3997 +81 426-482902

1-6-2 System Manufacturer

Table 1-7 System Manufacturer

Manufacturer	FAX Number
GE Medical Systems (China) Co., Ltd. No. 19 Changjiang Road, Wuxi National Hi-Tech Development Zone, Jiangsu, P.R. China 214028	TEL: +86 510-85225888 FAX: +86 510-85226688

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Chapter 2
Pre-Installation

Section 2-1
Overview

2-1-1 Purpose of chapter 2

This chapter provides the information required to plan and prepare for the installation of a Docking Cart. Included are descriptions of the facility and electrical needs to be met by the purchaser of the unit. A checklist is also provided at the end of this section to help determine whether the proper planning and preparation is accomplished before the actual equipment installation is scheduled.

Table 2-1 Contents in Chapter 2

Section	Description	Page Number
2-1	Overview	2-1
2-2	General Console Requirements	2-2
2-3	Facility Needs	2-6

Section 2-2
General Console Requirements

2-2-1 Console Environmental Requirements

Table 2-2 Environmental Requirements for Docking Cart

	Operational	Storage	Transport
Temperature	10 - 40°C 50 - 104 °F	-5 - 50 °C 23 - 122°F	-5 - 50 °C 23 - 122°F
Humidity	30 - 75% non-condensing	10 - 90% non-condensing	10 - 90% non-condensing
Pressure	700 - 1060hPa	700 - 1060hPa	700 - 1060hPa

Table 2-3 Environmental Requirements for an Ultrasound Room

Item	Values
Power Source	refer to Table 2-4 on page 2-3.
Power Rating	500VA (100V-120V); 500VA (220-240V)
Radiation Shielding	NONE REQUIRED for ULTRASOUND ENERGY
Floor Landing	Approximately 680 - 800 kg/m^2 without Accessories
Floor Condition	Gradient: WITHIN 5 degrees
Weight	53 kg without Accessories

*NOTE: Temperature in degrees C. Conversion to Degrees F = (Degrees C * 9/5) + 32.*

2-2-1-1 Lighting

Bright light is needed for system installation, updates and repairs. However, operator and patient comfort may be optimized if the room light is subdued and indirect. Therefore a combination lighting system (dim/bright) is recommended. Keep in mind that lighting controls and diameters can be a source of EMI which could degrade image quality. These controls should be selected to minimize possible interface.

2-2-2 Electrical Requirements

NOTE: GE Healthcare requires a dedicated power and ground for the proper operation of its Ultrasound equipment. This dedicated power shall originate at the last distribution panel before the system.

2-2-2 Electrical Requirements (cont'd)

Sites with a mains power system with defined Neutral and Live:

The dedicated line shall consist of one phase, a neutral (not shared with any other circuit), and a full size ground wire from the distribution panel to the Ultrasound outlet.

Sites with a mains power system without a defined Neutral:

The dedicated line shall consist of one phase (two lines), not shared with any other circuit, and a full size ground wire from the distribution panel to the Ultrasound outlet.

NOTE: Please note that image artifacts can occur, if at any time within the facility, the ground from the main facility's incoming power source to the Ultrasound unit is only a conduit.

2-2-2-1 Docking Cart Power Requirements

The following power line parameters should be monitored for one week before installation. We recommend that you use an analyzer Dranetz Model 606-3 or Dranetz Model 626:

Table 2-4 Electrical Specifications for Docking Cart

PARAMETER	AREA	LIMITS
Voltage Range	100-120V~	500VA
	220-240V~	500VA
Power	All applications	More than or equal to 750 VA
Line Frequency	All applications	50/60Hz (±2Hz)
Power Transients	All applications	Less than 25% of nominal peak voltage for less than 1 millisecond for any type of transient, including line frequency, synchronous, asynchronous, or aperiodic transients.
Decaying Oscillation	All applications	Less than 15% of peak voltage for less than 1 millisecond.

2-2-2-2 Inrush Current

Inrush Current is not a factor to consider due to the inrush current limiting properties of the power supplies.

2-2-2-3 Site Circuit Breaker

It is recommended that the branch circuit breaker for the machine be ready accessible.

CAUTION **POWER OUTAGE MAY OCCURE.**

The Docking Cart requires a dedicated single branch circuit. To avoid circuit overload and possible loss of critical care equipment, make sure you DO NOT have any other equipment operating on the same circuit.

2-2-2-4 Site Power Outlets

A desiccated AC power outlet must be within reach of the unit without extension cords. Other outlets adequate for the external peripherals, medical and test equipment needed to support this unit must also be present within 1 m (3.2 ft.) of the unit. Electrical installation must meet all current local, state, and national electrical codes.

2-2-2-5 Unit Power Plug

If the unit arrives without the power plug, or with the wrong plug, you must contact your GE dealer or the installation engineer must supply what is locally required.

2-2-2-6 Power Stability Requirements

Voltage drop-out
Max 10 ms.

Power Transients
(All applications)
Less than 25% of nominal peak voltage for less than 1 millisecond for any type of transient, including line frequency, synchronous, asynchronous, or aperiodic transients.

2-2-3 EMI Limitations

Ultrasound machines are susceptible to Electromagnetic Interference (EMI) from radio frequencies, magnetic fields, and transient in the air wiring. They also generate EMI. The Docking Cart complies with limits as stated on the EMC label. However there is no guarantee that interface will not occur in a particular installation.

Possible EMI sources should be identified before the unit is installed.

Electrical and electronic equipment may produce EMI unintentionally as the result of defect.

These sources include:

- medical lasers,
- scanners,
- cauterizing guns,
- computers,
- monitors,
- fans,
- gel warmers,
- microwave ovens,
- light dimmers,
- portable phones.

The presence of broadcast station or broadcast van may also cause interference. See for EMI Prevention tips.

See Table 2-5 for EMI Prevention tips.

Table 2-5 EMI Prevention/abatement

EMI Rule	Details
Be aware of RF sources	Keep the unit at least 5 meters or 15 feet away from other EMI sources. Special shielding may be required to eliminate interference problems caused by high frequency, high powered radio or video broadcast signals.
Ground the unit	Poor grounding is the most likely reason a unit will have noisy images. Check grounding of the power cord and power outlet.

Table 2-5 EMI Prevention/abatement

EMI Rule	Details
Replace all screws, RF gaskets, covers, cores	After you finish repairing or updating the system, replace all covers and tighten all screws. Any cable with an external connection requires a magnet wrap at each end. Install the shield over the front of card cage. Loose or missing covers or RF gaskets allow radio frequencies to interface with the ultrasound signals.
Replace broken RF gaskets	If more than 20% or a pair of fingers on the RF gaskets are broken, replace the gaskets. Do not turn on the unit until any loose metallic part is removed.
Do not place labels where RF gaskets touch metal	Never place a label where RF gaskets meet the unit. Otherwise, the gap created will permit RF leakage. Or, if a label has been found in such a position, move the label.
Use GE specified harnesses and peripherals	The interconnect cables are grounded and require ferrite beads and other shielding. Also, cable length, material, and routing are all important; do not change from what is specified.
Take care with cellular phones	Cellular phones may transmit a 5 V/m signal; that could cause image artifacts.
Properly dress peripheral cables	Do not allow cables to lie across the top of the card cage or hang out of the peripheral bays. Loop the excess length for peripheral cables inside the peripheral bays. Attach the monitor cables to the frame.

Section 2-3
Facility Needs

2-3-1 Purchaser Responsibilities

The work and materials needed to prepare the site is the responsibility of the purchaser. Delay, confusion, and waste of manpower can be avoided by completing pre installation work before delivery. User the Pre Installation checklist to verify that all needed steps have been taken,
Purchaser reasonability includes:

- Procuring the materials required.
- Completing the preparations before delivery of the ultrasound system.
- Paying the costs for any alternations and modifications not specifically provided in the sales contract.

NOTE: All electrical installation that are preliminary to the positioning of the equipment at the site prepared for the equipment must be performed by licensed electrical contractors. Other connections between pieces of electrical equipment, products involved (and the accompanying electrical installations) are highly sophisticated and special engineering competence is required. All electrical work on these product must comply with the requirements of applicable electrical codes. The purchaser of GE equipment must only utilize qualified personnel to perform electrical servicing on the equipment.

The desire to use a non-listed or customer provided product or to place an approved product further from the system than the interface kit allows presents challenges to the installation team. To avoid delays during installation, such variances should be made known to the individuals or group performing the installation at the earliest possible date (preferable prior to purchase).
The ultrasound suite must be clean proof to delivery of the machine. Carpet is not recommended because it collects dust and creates static. Potential sources of EMI (electromagnetic interference) should also be investigated before delivery. Dirt, static, and EMI can negatively impact system.

2-3-2 Required Features

NOTE: GE Medical Systems requires a dedicated power and ground for the proper operation of its Ultrasound equipment. This dedicated power shall originate at the last distribution panel before the system.

Sites with a mains power system with defined Neutral and Live:

The dedicated line shall consist of one phase, a neutral (not shared with any other circuit), and a full size ground wire from the distribution panel to the Ultrasound outlet.

Sites with a mains power system without a defined Neutral:

The dedicated line shall consist of one phase (two lines), not shared with any other circuit, and a full size ground wire from the distribution panel to the Ultrasound outlet.

Please note that image artifacts can occur, if at any time within the facility, the ground from the main facility's incoming power source to the Ultrasound unit is only a conduit.

- Dedicated single branch power outlet of adequate amperage meeting all local and national codes which is located less than 2.5 m (8 ft.) from the unit’s proposed location
- Door opening is at least 76 cm (30 in) wide
- Proposed location for unit is at least 0.3 m (1 ft.) from the wall for cooling
- Power outlet and place for any external peripheral are within 2 m (6.5 ft.) of each other with peripheral within 1 m of the unit to connect cables.

2-3-3 Desirable Features

2-3-4 Recommended and Alternate Ultrasound Room Layout

Recommended standard floor plan and a minimal floor plan for ultrasound equipment:

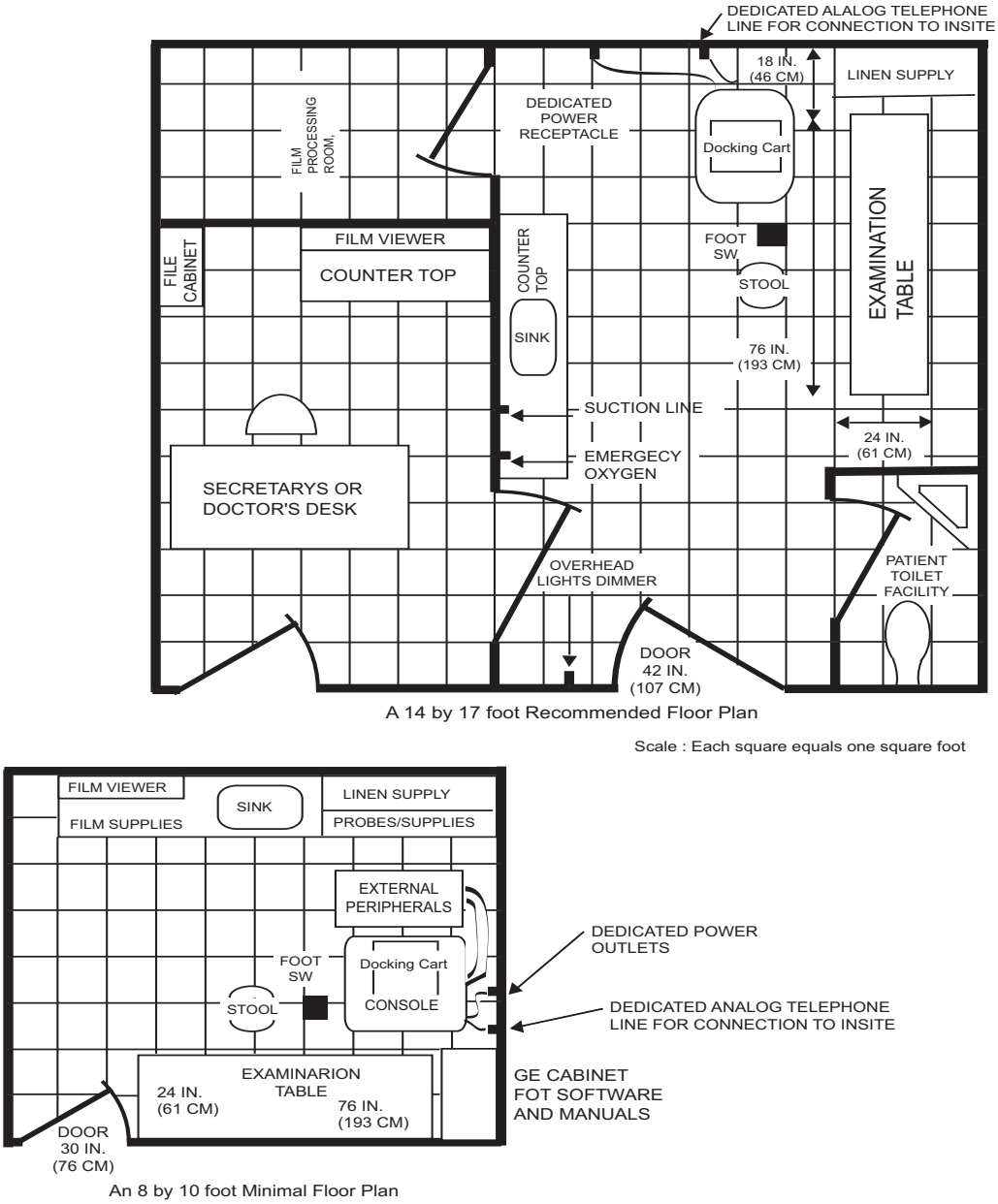


Figure 2-1 RECOMMENDED ULTRASOUND ROOM LAYOUT

Chapter 3
Docking Cart Setup

Section 3-1
Overview

3-1-1 Purpose of Chapter 3

This chapter contains information needed to setup Docking Cart. Included are references to a procedure that describes how to receive and unpack the equipment and how to file a damage or loss claim. How to prepare the facility and unit of the actual setup, and how to check and test the unit and external peripherals for electrical safety are included in this procedure. Also included in this section are guidelines for transporting the unit to a new site.

Table 3-1 Contents in Chapter 3

Section	Description	Page Number
3-1	Overview	3-1
3-2	Setup Reminders	3-2
3-3	Receiving and Unpacking the Equipment	3-4
3-4	Preparing for Installation	3-10
3-5	Peripherals Installation	3-13
3-6	Paperwork	3-61

Section 3-2
Setup Reminders

3-2-1 Average Setup Time

Table 3-2 Average Installation Time

Description	Average Setup Time	Comments
Unpacking the cart	0.5 hour	
Cart options	0.5 hour	Dependant on the configuration that is required

The Docking Cart has been designed to be setup and checked out by an experienced service technician in approximately four hours. Docking Cart consoles with optional equipment may take slightly longer.

3-2-2 Setup Warnings

1.) Since the Docking Cart weighs approximately 53 kg.(116 lb) without options, preferably two people should unpack it. Two people are also preferable for setting up any additional bulky items.

2.) There are no operator serviceable components. To prevent shock, do not remove any covers or panels. Should problems or malfunctions occur, unplug the power cord. Only qualified service personnel should carry out servicing and troubleshooting.

NOTE: For information regarding packing labels, refer to LABELS ON PACKAGE.

3.) After being transported, the unit may be very cold or hot. If this is the case, allow the unit to acclimate before you turn it on. It requires one hour for each 2.5°C increment it's temperature is below 10°C or above 30°C.

⚠ **CAUTION Equipment damage possibility. Turning the system on without acclimation after arriving at site may cause the system to be damaged.**

Table 3-3 Acclimation Time

°C	60	55	50	45	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40
°F	140	131	122	113	104	95	86	77	68	59	50	41	32	23	14	5	-4	-13	-22	-31	-40
hrs	8	6	4	2	0	0	0	0	0	0	0	2	4	6	8	10	12	14	16	18	20

3-2-3 Safety Reminders

DANGER **WHEN USING ANY TEST INSTRUMENT THAT IS CAPABLE OF OPENING THE AC GROUND LINE (I.E., METER'S GROUND SWITCH IS OPEN), DON'T TOUCH THE UNIT!**

CAUTION **Two people should unpack the unit because of its weight. Two people are required whenever a part weighing 19kg (42 lb.) or more must be lifted.**

CAUTION **If the unit is very cold or hot, do not turn on its power until it has had a chance to acclimate to its operating environment.**

CAUTION **To prevent electrical shock, connect the unit to a properly grounded power outlet. Do not use a three to two prong adapter. This defeats safety grounding.**

CAUTION **Do not use a 20 Amp to 15 Amp adapter on the 120 Vac unit's power cord. This unit requires a dedicated 20 A circuit and can have a 15A plug if the on board peripherals do not cause the unit to draw more than 14.0 amps.**

CAUTION **Do not operate this unit unless all board covers and frame panels are securely in place. System performance and cooling require this.**

CAUTION **OPERATOR MANUAL(S)**
The User Manual(s) should be fully read and understood before operating the Docking Cart and kept near the unit for quick reference.

Figure 3-1 Environmental Labels

Section 3-3
Receiving and Unpacking the Equipment

When a new system arrives, check that any components are not damaged and are not in short supply. If shipping damage or shortage occurs, contact the address shown in Chapter 1.

CAUTION **Do not lift the unit by the Keyboard. Equipment damage may result.**

CAUTION **The crate with the Docking Cart weighs approximately 82kg. Be prepared for a sudden shift of weight as the unit is removed from its base (pallet)**

Unpacking the carte

1.) Disassembly the tape in the crate to get the bending head of tool, refer to Figure 3-2 on page 5 .
2.) Insert the bending head of tool into the hole on tongue, refer to Figure 3-2 on page 5 .
3.) Pull the tongue to a certain degree, refer to Figure 3-2 on page 5 .
4.) insert the pain head into the hole of tongue to take place the bending head, refer to Figure 3-2 on page 5 .
5.) Go on pull the tongue unless it ends up.
6.) After all the tongues end up, separate the profile from tongue to open the whole box.

Section 3-3 Receiving and Unpacking the Equipment (cont'd)

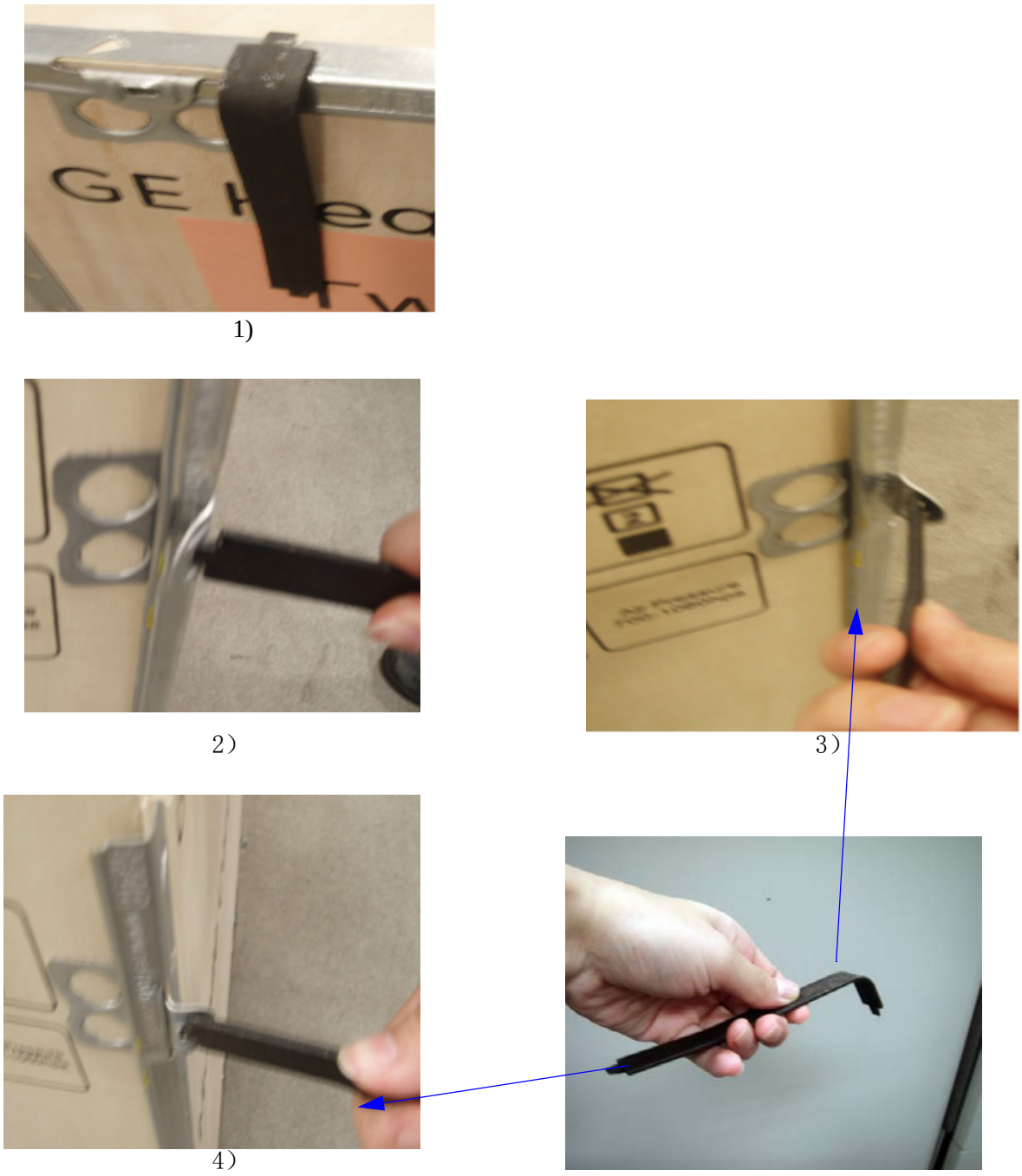


Figure 3-2 Open the box

Section 3-3 Receiving and Unpacking the Equipment (cont'd)

Take out the Docking Cart

1.) Remove the forks clip from the docking cart, refer to Figure 3-3 on page 7 .
2.) Remove the PE bag and plastic film from the docking cart.
3.) Remove Manual box and Accessories Carton from the top foam, refer to Figure 3-3 on page 7
4.) Remove all the foam from docking cart, refer to Figure 3-3 on page 7 .
5.) Put forks in front of the platform, refer to Figure 3-4 on page 8 .
6.) Put one of lateral plate on the 2 to make a bevel, refer to Figure 3-4 on page 8
7.) Unlock the wheels of docking cart and pull the cart through the bevel, refer toFigure 3-4 on page 8 .

NOTE: When pull docking cart from the bevel, fix the bevel with one foot, refer to Figure 3-4 on page 8 .

Section 3-3 Receiving and Unpacking the Equipment (cont'd)

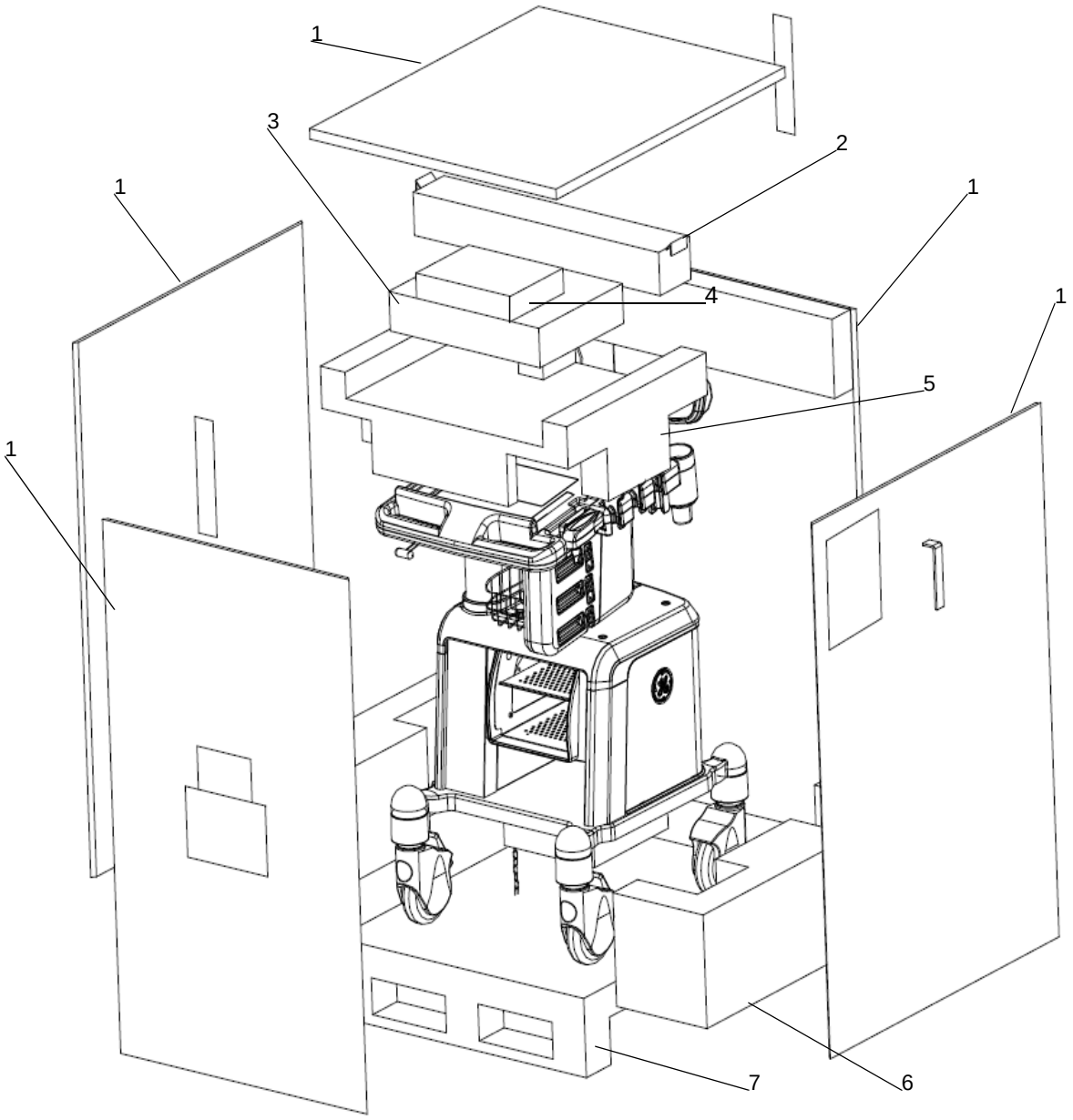


Figure 3-3 Remove foam

1.Lateral 2.Forks Clip 3.Accessories Carton 4.Manual 5.Top Foam 6.Bottom Foam

7.Platform

Section 3-3 Receiving and Unpacking the Equipment (cont'd)

5)

6)

7)

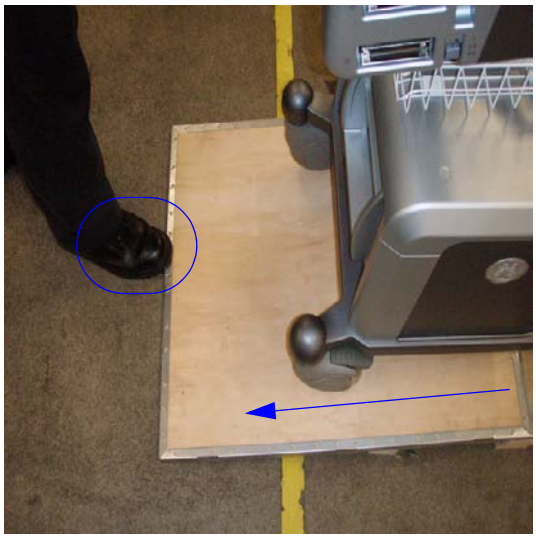


Figure 3-4 Pull the Docking Cart

3-3-1 Moving into Position

CAUTION

Do not tilt the unit more than 5 degrees to avoid tipping it over.

In general, a single adult can move the Docking Cart along an even surface with no steep grades. At least two people should move the machine when large humps, grooves, or grades will be encountered. (It is better to pull from the rear rather than push from the front of the unit). Before moving, store all loose parts in the unit. Wrap transducers in soft cloth or foam to prevent damage.

Docking Cart is a compact and mobile machine, two people should move it over rough surfaces or up and down grades.

3-3-2 Product Locator Installation Card

NOTE: The Product Locator Installation Card shown may not be same as the provided Product Locator card.

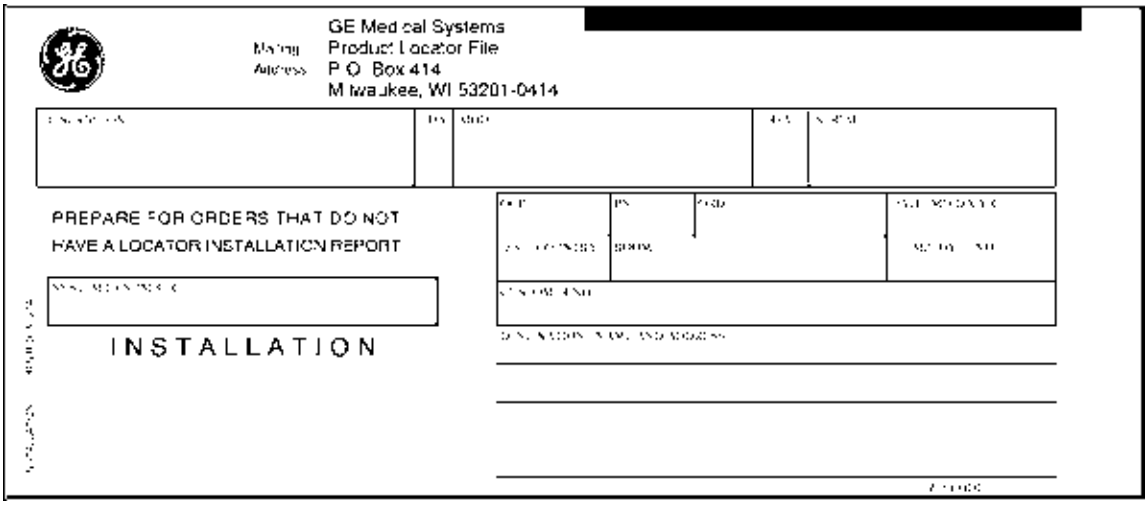


Figure 3-5 Product Locator Installation Card

Section 3-4
Preparing for Installation

3-4-1 Verify Customer Order

Compare items received by the customer to that which is listed on the delivery order. Report any items that are missing, back ordered or damaged.

3-4-2 Physical Inspection

3-4-2-1 System Voltage Settings

Verify that Docking Cart is set to the correct voltage.
The Voltage settings for the Docking Cart is found on a label to the left of the Power switch and External I/O, on the rear of the system.

⚠ **WARNING** ***Connecting a Docking Cart to the wrong voltage level will most likely destroy it.***

3-4-3 EMI Protection

This Unit has been designed to minimize the effects of Electro Magnetic Interference (EMI). Many of the covers, shields, and screws are provided primarily to protect the system from image artifacts caused by this interference. For this reason, it is imperative that all covers and hardware are installed and secured before the unit is put into operation.

3-4-3-1 Physical Dimensions

The physical dimensions of the Docking Cart unit are summarized in Table 3-4 on page 11 . The Size of Docking Cart without Monitor, 3 probe ports and speakers .

Table 3-4 Physical Dimensions of Docking Cart

	Height	Width	Depth	Unit
Tall	910.6 -1050.6	473.2	624.0	mm
Tall	35.85 - 41.36	18.63	24.57	inch
Short	860.6 -1000.6	473.2	624.0	mm
Short	33.88 - 39.39	18.63	24.57	inch

Figure 3-6 Overall Dimensions

3-4-3-2 Weight without Monitor, Peripherals,3 probe prots and speakers

Table 3-5 Weight of Docking Cart Without Monitor, Peripherals 3 probe ports and speakers.

	Weight [kg]	Weight [lb]
Tall	Approximately 54.3	Approximately 119.60
Short	Approximately 52.8	Approximately 116.29

3-4-4 Electrical Specifications

Table 3-6 Electrical Specifications for Docking Cart

System	Voltage	Current	Frequency
1	100 –120 V ~	500VA	50/60Hz
2	220– 240 V ~	500VA	50/60Hz

Section 3-5
Peripherals Installation

3-5-1 Purpose of the Section

This section describe how to install and configure the peripherals validate for Docking Cart.

Table 3-7 Contents of the section

Section	Description	Page Number
3-5-1	Purpose of the Section	3-14
3-5-2	On-Board Optional Peripherals	3-13
3-5-3	Touch Screen and Arm Installation	3-14
3-5-4	DVD/Printer Shelf Assy	3-26
3-5-5	Peripheral Shelf Assy	3-28
3-5-6	Top Support DVD /Print Shelf Assy	3-30
3-5-7	Connect B/W USB Printer to Docking Cart	3-33
3-5-8	Connect DVD-RW to Docking Cart	3-39
3-5-9	Connect Color USB Printer to Docking Cart	3-43
3-5-10	Connect DVD Recorder to Docking Cart	3-45
3-5-11	Connect ECG to Docking Cart	3-48
3-5-12	Connect UPS to Docking Cart (For Software Version R5.2.x, R6.x.x and R7.x.x)	3-50

3-5-2 On-Board Optional Peripherals

Device	Manufacturer	Model	Interface	Video Signal
B/W Printer	SONY	UP-D897MD	USB Interface	N/A (* USB Interface)
	MITSUBISHI	MITSUBISHI P95D	USB Interface	N/A (* USB Interface)
DVD-RW	LITEON	LITEON DX-20A4P	USB Interface	N/A (* USB Interface)
	LITEON	LITEON Model eHAU 120	USB Interface	
	LITEON	LITEON Model eHAU 324	USB Interface	
	PLEXTOR	PLEXTOR PX-L890UE	USB Interface	
Color Printer	SONY	UP-D23MD	USB Interface	N/A (* USB Interface)
	SONY	UP-D25MD	USB Interface	
DVD-Record	Panasonic	MD-800E MD-800U	USB Interface	NTSC PAL
ECG	NORAV GE	ECG-USB1	USB Interface	N/A (* USB Interface)
UPS	Skynet	LTB-W300	USB Interface	N/A (* USB Interface)

See each option setup instructions for installation and connection procedures.

NOTE: After installation ,Pleases disable the function for OSD Keyand Power Switch on the side of the touch panel. The action should be only for software version R5.2.x, R6.x.x and R7.x.x.

3-5-3 Touch Screen and Arm Installation

3-5-3-1 Touch screen and Arm Kit Checklist

Table 3-8

Item	Part Name	QTY
1	Touch Screen AC Power Cord	1
2	Touch screen panel	1
3	Cable tie	8
4	Vertical arm assy	1
5	Articulatory arm assy	1
6	Panel decorative rear cover	2
7	Screws with washers M4x14	4
8	Arm support ASSY	1
9	Screw with washers M5X16	3
10	Screw with washers M6X30	4
11	Hex wrench 4mm	1
12	Hex wrench 2.5mm	1
13	DVI Cable	1
14	USB Cable	1

3-5-3-2 Tools

- Common pillips screwdrivers
- Common Hex screwdrivers

3-5-3-3 Needed Manpower

- 1 people, 1 hour+travel

3-5-3-4 Preparations

- Shut down the system and switch off the main breaker.

3-5-3-5 Mounting procedure

1.) Loose 4 screws at the rear panel of Docking Cart by hand and remove the rear panel, refer to Picture 1) of the Figure 3-7 on page 16 .

2.) Unscrew 3 screws [M6x15] and remove the Monitor Space Cap, refer to Picture 2) of the Figure 3-7 on page 16 .

3.) Fix the Monitor Arm Assy by 3 screws [M6x15] at the bottom, refer to Picture 3) of the Figure 3-7 on page 16 .

4.) Push the Arm Support Assy into the tracker and fix it by 4 screws [M6x30] at the bottom, refer to Picture 4) of the Figure 3-7 on page 16 .

5.) Place LCD Arm at the back of the Touch Screen, refer to Picture 5) of the Figure 3-7 on page 16 .

6.) Cover the back of the Touch Screen with two rear decorative cover and fasten 4 screws [M4x14], refer to Picture 6) of the Figure 3-8 on page 17 .

3-5-3 Touch Screen and Arm Installation (cont'd)

NOTE: When fixing the screws on the rear decorative covers,please hold the Articulatory Arm, refer to Picture 5) of the Figure 3-8 on page 17 .

7.) Place LCD with Arm to the Monitor Support Arm of Docking Cart, refer to Picture 7) of the Figure 3-8 on page 17 .

8.) Fix the screw [M5X8] on Articulatory Arm, refer to Picture 8) of the Figure 3-8 on page 17 .

NOTE: When tighten the screws,make sure the arm can rotate freey and can stop at the right side.

9.) Remove the two rubber bands in the Arm, refer to Picture 9) of the Figure 3-9 on page 18 .

10.) Put the the Power Cable, DVI Cable and USB cable into cable hole of the Monitor Arm, refer to Picture10) of the Figure 3-9 on page 18 .

11.) Install the two rubber bands, refer to Picture 11) of the Figure 3-9 on page 18 .

12.) Connect the Power Cable, DVI Cable and USB cable to LCD and fixed cables by Cable Clip and Strip, refer to Picture 12) of the Figure 3-9 on page 18 .

13.) Install the Touch Screen Back Cover, refer to Picture 13) of the Figure 3-9 on page 18 .

14.) Make the Power Cable and USB cable through the hole on the Cabint, refer to Picture 14) of the Figure 3-10 on page 19 .

15.) Connect the other end of the Power Cable to the Power Strip, refer to Picture 15 of the Figure 3-10 on page 19

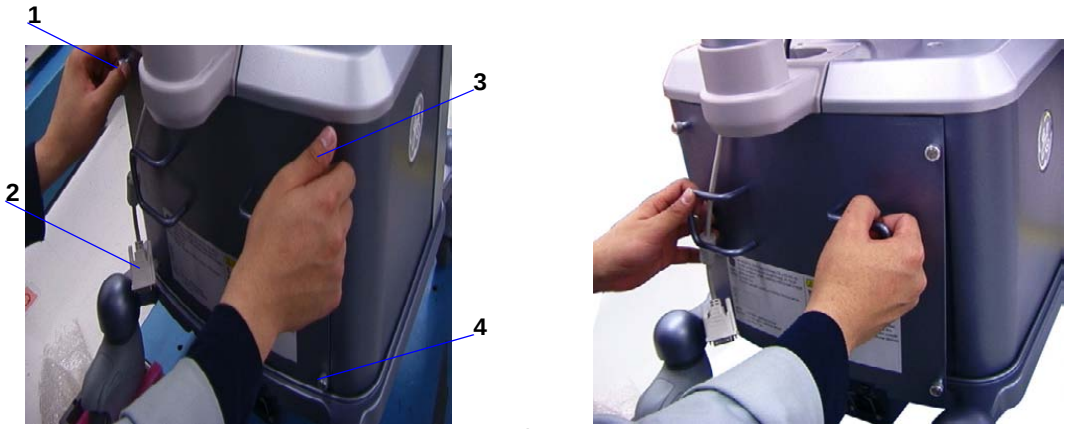
16.) Connect the other end of the Touch Screen USB Cable to the USB Hub of Docking Cart, refer to Picture 16) of the Figure 3-10 on page 19 .

17.) Connect the other end of the DVI Cable to the DVI Port of the Docking Cart, refer to Picture 17) of the Figure 3-10 on page 19 .

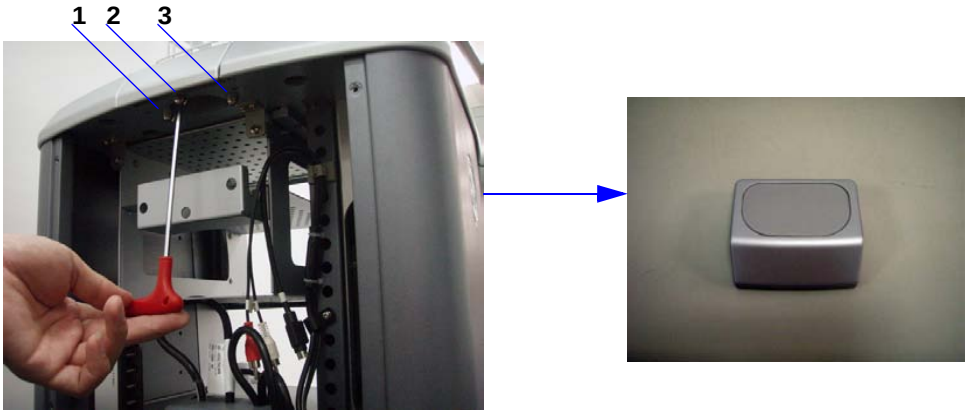
NOTE: Connect the Touch Screen USB interface to the last port of the USB Hub of the Docking Cart, refer to Picture 16) of the Figure 3-10 on page 19

18.) Place the Touch Screen in the horizontal position and then insert the cables to groove of the Arms, refer to Picture 18) of the Figure 3-10 on page 19 .

3-5-3 Touch Screen and Arm Installation (cont'd)



1)

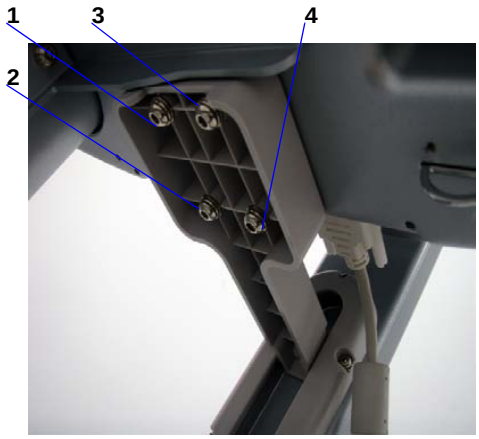


2)

3)

Figure 3-7 Touch Screen and Arm Installation

3-5-3 Touch Screen and Arm Installation (cont'd)



4)

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6) 7)

Figure 3-8 Touch Screen and Arm Installation

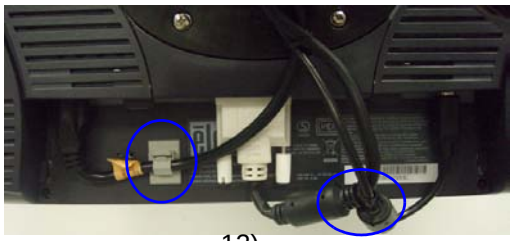
3-5-3 Touch Screen and Arm Installation (cont'd)

8)

9)

10)

11)



12)

13)

Figure 3-9 Touch Screen and Arm Installation

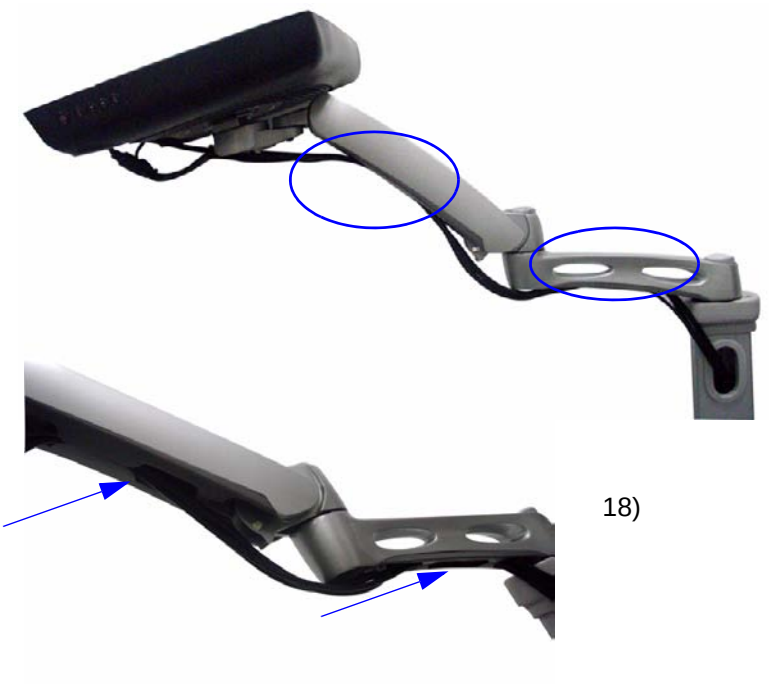
3-5-3 Touch Screen and Arm Installation (cont'd)

14)

15)

16)

17)



18)

Figure 3-10 Touch Screen and Arm Installation

3-5-3 Touch Screen and Arm Installation (cont'd)

19.) Fix the cable with the cable ties as the following figures and procedures show.

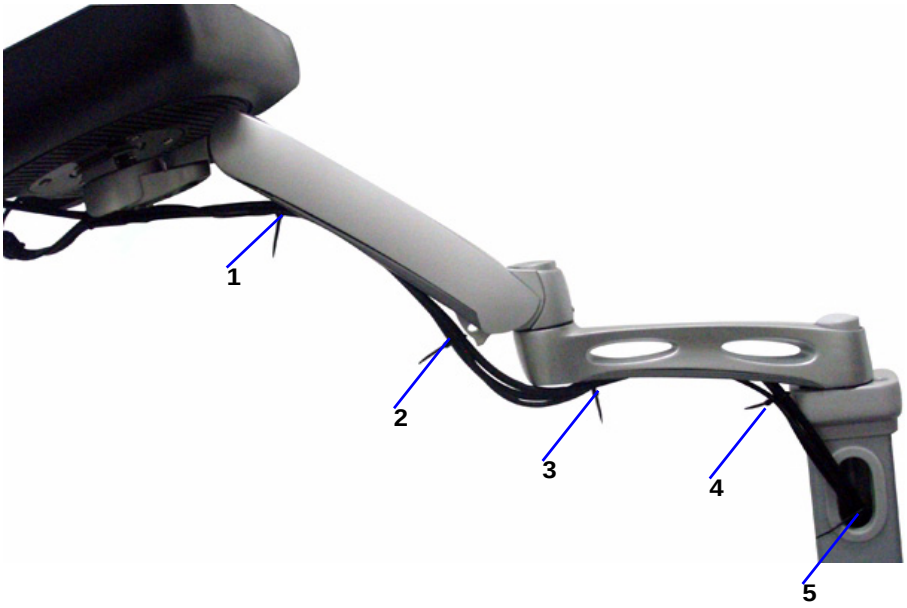


Figure 3-11 Cable Tie

a.) Cable Tie 1

- **Arm and Touch Screen Position:** Place the Touch Screen in the horizontal position and the Arm in extreme higher position, refer to Figure 3-11 on page 20 .
- **Action:** Fix the cable ties as the Figure 3-11 on page 20 shows.

b.) Cable Tie 2

- **Arm and Touch Screen Position:** Place the Touch Screen in horizontal position and the Arm in extreme lower position, refer to Figure 3-12 on page 20 .
- **Action:** Fix the cables tie as the Figure 3-12 on page 20 shows.

Figure 3-12 Cable Tie 2

3-5-3 Touch Screen and Arm Installation (cont'd)

c.) Cable Tie 3

- **Arm in extreme higher position:** refer to Figure 3-11 on page 20 .
- **Action:** Make the cable tie get through the Wire Clamp in the decorative bottom cover and then fix the cable, refer to Figure 3-13 on page 21 .

Figure 3-13 Cable Tie 4

.

d.) Cable Tie 4 and 5

- **Arm in extreme higher position:** refer to Figure 3-11 on page 20 .
- **Action:** Make the cable tie get through the Wire Clamp in the decorative bottom cover and then fix the cable, refer to Figure 3-11 on page 20 .

8.) After fixing the cable with the cable ties,cut the redundant part of the cable tie.

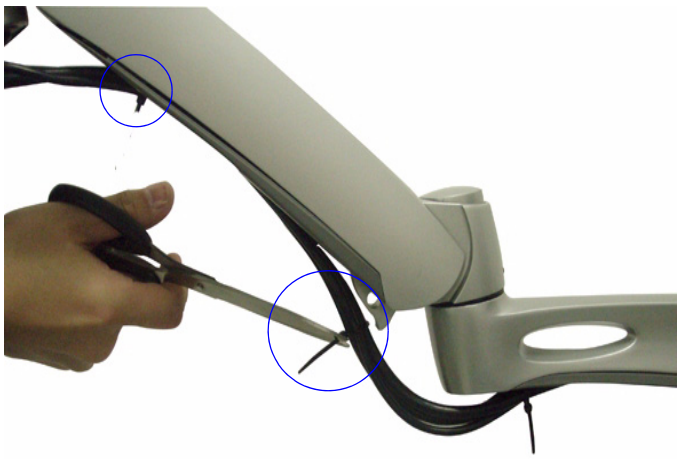


Figure 3-14 Cut the cable tie

3-5-3 Touch Screen and Arm Installation (cont'd)

9.) After Arm and Touch Screen installation ,Power on the Docking Cart.The touch screen will be on auto calibration state for about 5 minitues.

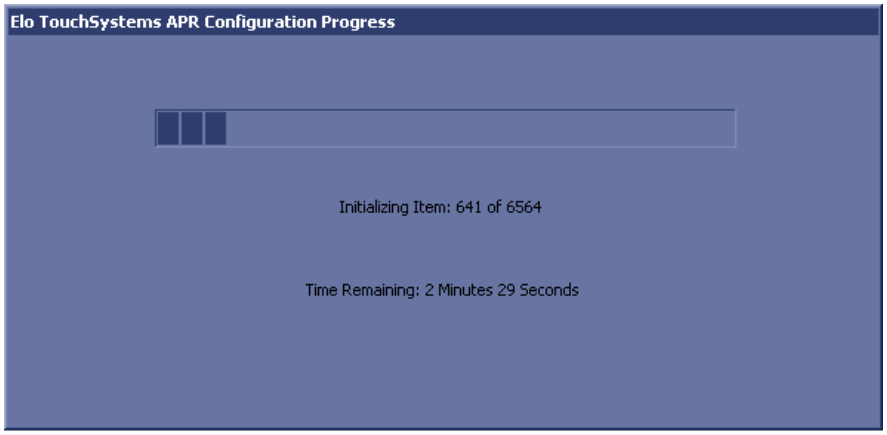
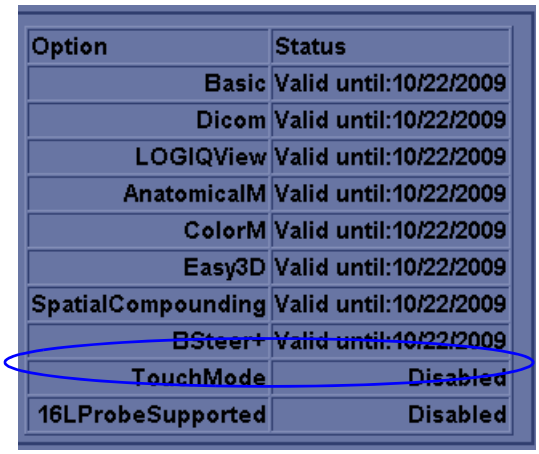


Figure 3-15 Touch Screen Auto Calibration Window

NOTE: After the system upgrade to R5.2.x or R6.x.x and R7.x.x ,mount the system to the docking with Touch screen.The touch screen calibration process will lanch automatically. The process needs serveral minutes ,What's more, if the system R5.2.x or R6.x.x and R7.x.xis first time mounted to the docking cart with Touch Screen ,the calibration process will still lanch automatically.

NOTE: The Touch Screen function is available only after the Touch Screen license has been inputted. The procedure to input the license as the following show.

1.) In Utility--> Admin--> Systme Admin,the Touch Screen does not activate.



Option	Status
Basic	Valid until:10/22/2009
Dicom	Valid until:10/22/2009
LOGIQView	Valid until:10/22/2009
AnatomicalM	Valid until:10/22/2009
ColorM	Valid until:10/22/2009
Easy3D	Valid until:10/22/2009
SpatialCompounding	Valid until:10/22/2009
BSteer+	Valid until:10/22/2009
TouchMode	Disabled
16LProbeSupported	Disabled

Figure 3-16 Touch Panel Disable

3-5-3 Touch Screen and Arm Installation (cont'd)

2.) In Utility--> Admin--> Systme Admin,input the license and then press ***Add.***

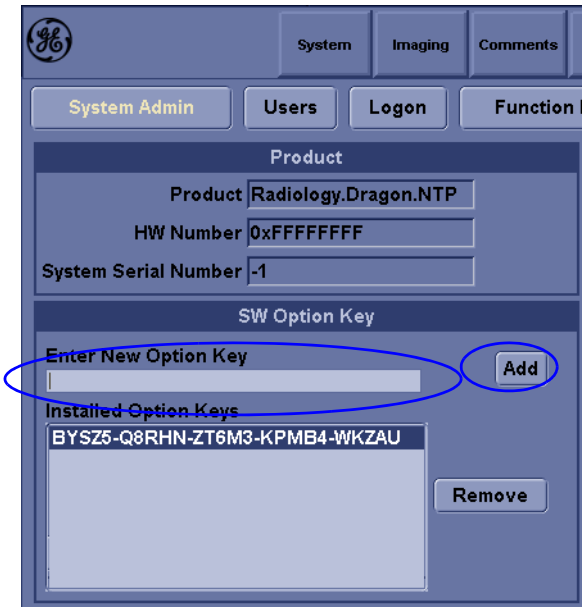


Figure 3-17 Input the license

3.) After the license has been inputed, the functions activate.

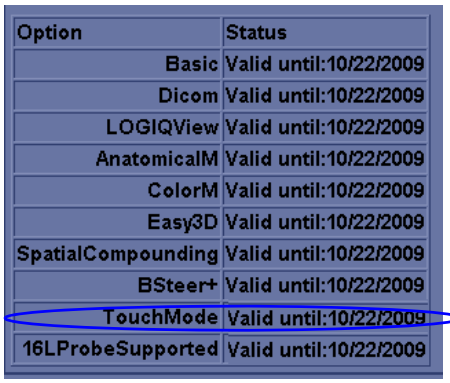


Figure 3-18 Function activate

4.) Press ***F12,***a touch user interface will be displayed.

3-5-3 Touch Screen and Arm Installation (cont'd)

NOTE: Use Common Hex screwdrivers to fasten the Hinge Screw, if the Touch Screen comes adrift.

Type of the screw:M6X20.

Figure 3-19 Hinge Screw

NOTE: Use Common Hex screwdrivers to fasten the Arm Force Adjust Screw , if the arm comes adrift.

When fasten the screw, please hold the Touch Screen with one hand and place the Touch Screen in the position as the following picture.

Type of the screw: M6 Hex Screw.

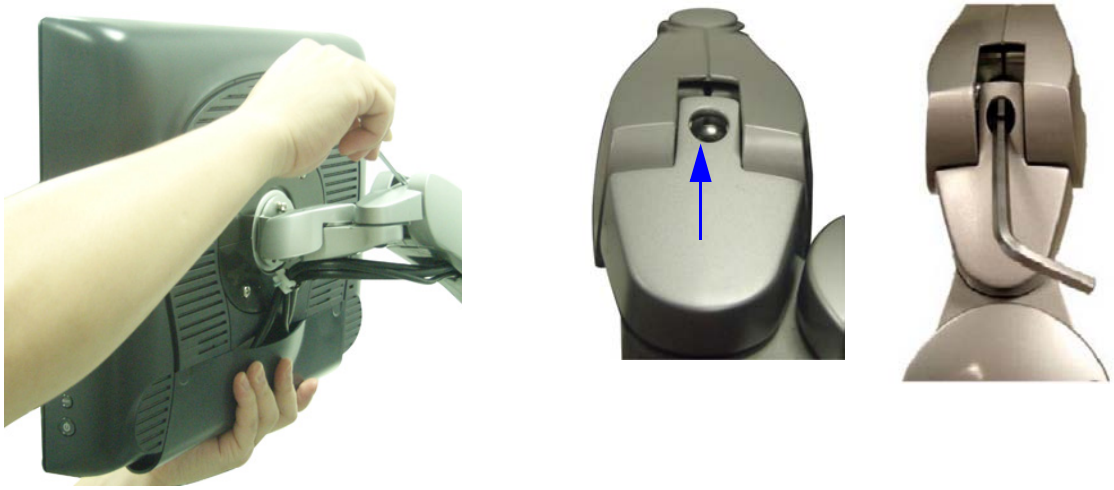


Figure 3-20 Arm Force Adjust Screw

3-5-3 Touch Screen and Arm Installation (cont'd)

NOTE: When move the Docking Cart, please put the Arm and Touch Screen on appropriate position as the following figure shows to avoid the Arm and Touch Screen sliding.

Figure 3-21 Avoid the Arm and Touch Screen sliding

3-5-4 DVD/Printer Shelf Assy

3-5-4-1 Tools

- Common Hex driver
- common Phillips screwdriver

3-5-4-2 Needed Manpower

- 1 person, 3 minutes+travel

3-5-4-3 Preparations

- Shut down the system and switch off the main breaker.

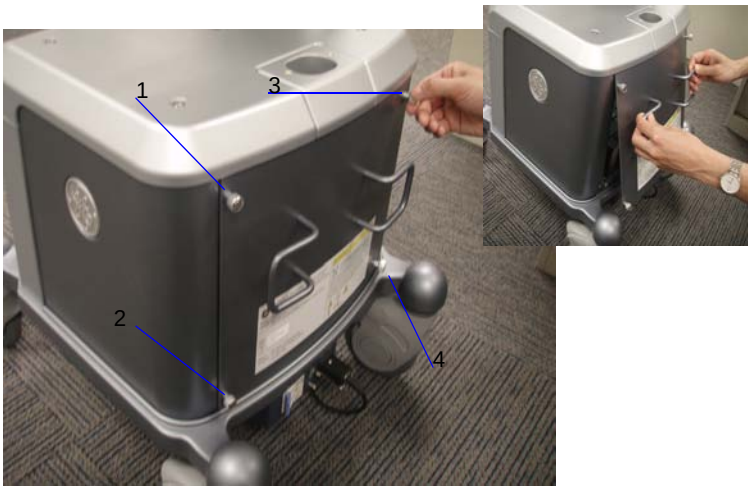
3-5-4-4 Removal procedure

1.) Remove the storage rack, refer to section 8-2-22 on page 42.
2.) Loose 4 screws of the rear panel and remove it, refer to Figure 3-22 on page 27 .
3.) Unscrew 2 screws [M4X8] under the Top cabinet, refer to Figure 3-22 on page 27 .
4.) Remove 3 screw caps and unscrew the 3 screws [M5X30] on the top cabinet, refer to Figure 3-22 on page 27 .
5.) Lift up the top cabinet and pull out the DVD/printer shelf, refer to Figure 3-22 on page 27 .

3-5-4-5 Mounting Procedure

Install the new parts in the reverse order of removal.

3-5-4 DVD/Printer Shelf Assy (cont'd)



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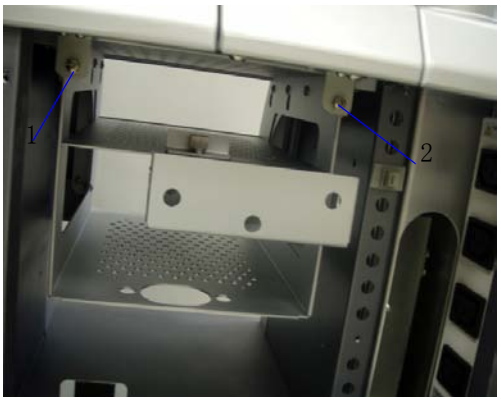


3)

4)

5)

Figure 3-22 DVD/Printer Shelf Disassembly

3-5-5 Peripheral Shelf Assy

3-5-5-1 Tools

- Common Hex driver
- common Phillips screwdriver

3-5-5-2 Needed Manpower

- 1 person, 5 minutes+travel

3-5-5-3 Preparations

- Shut down the system and switch off the main breaker.

3-5-5-4 Mounting procedure

1.) Remove the DVD/Print Shelf, refer to section 3-5-4 on page 26.
2.) Pull the shelf into the cabinet in the arrow's direction, refer to Figure 3-23 on page 29 .
3.) Fasten 8 screws[M5X16], refer to Figure 3-23 on page 29 .

3-5-5-5 Removal Procedure

Remove the new parts in the reverse order of mounting procedure.

3-5-5 Peripheral Shelf Assy (cont'd)

2)

3)

Figure 3-23 Peripheral Shelf Assy

NOTE: "C" mark in peripheral shelf is the place to fix color USB printer. "D" mark is the place to fix DVD recorder.

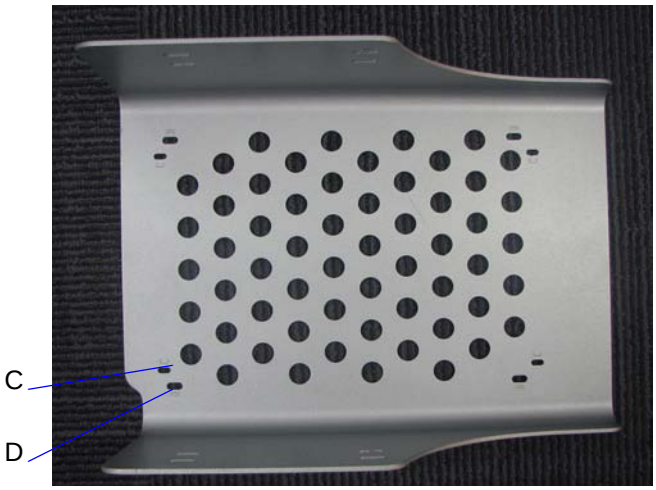


Figure 3-24 C&D Mark

3-5-6 Top Support DVD /Print Shelf Assy

3-5-6-1 Tools

- Common Hex driver
- common Phillips screwdriver

3-5-6-2 Needed Manpower

- 1 person, 8 minutes+travel

3-5-6-3 Preparations

- Shut down the system and switch off the main breaker.

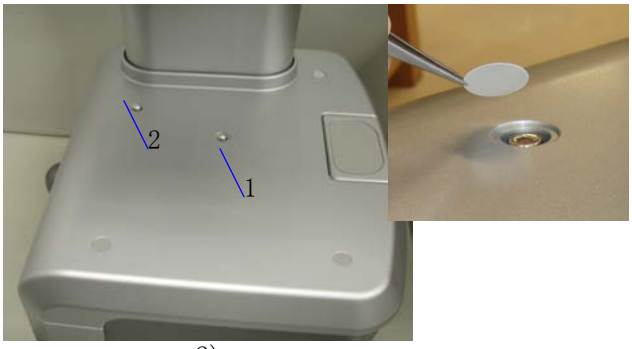
3-5-6-4 Mounting procedure

1.) Remove the Storage Rack from the top cabinet, refer to section 8-2-22 on page 42.
2.) Fasten two srews [M5X30] on the top cabinet and stick two srew caps on it, refer to Figure 3-25 on page 31 .
3.) Remove the Screw Cap 1, refer to Figure 3-25 on page 31 .
4.) Remove the cover of Space Cap2 and stick it in the Monitor Support Space Cap, refer to Figure 3-25 on page 31 .
5.) Turn over the Top DVD/Print Support Shelf, refer to Figure 3-25 on page 31 .
6.) Turn over the B/W Print and pull it into Support DVD/Print Shelf, refer to Figure 3-25 on page 31 .
7.) Put the Support DVD/Print Shelf above the Top DVD/Print Shelf.
8.) The screw holes in B/W Print and two shelves should superpose and fasten 4 screws, refer to Figure 3-25 on page 31 .
9.) Push the B/W Print in arrow's direction and the shelf installed with the Support Shelf snapped to the top of the cabinet, refer to Figure 3-25 on page 31 .
10.) Fix the Top and Support DVD/Print Shelf to the Monitor support cap with 2 screws [M5X12], refer to section Figure 3-26 on page 32
11.) Fix the Shelf to the Plate support under the Top cabinet with 2 screws[M4X8], refer to section Figure 3-26 on page 32.

3-5-6-5 Removal Procedure

Remove the new parts in the reverse order of mounting procedure.

3-5-6 Top Support DVD /Print Shelf Assy (cont'd)



2)

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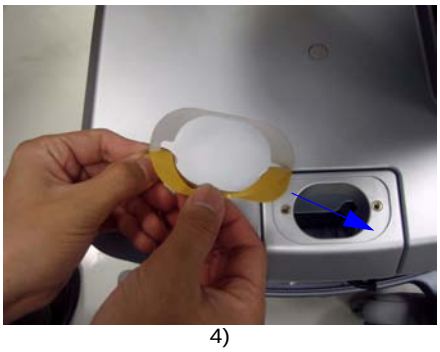

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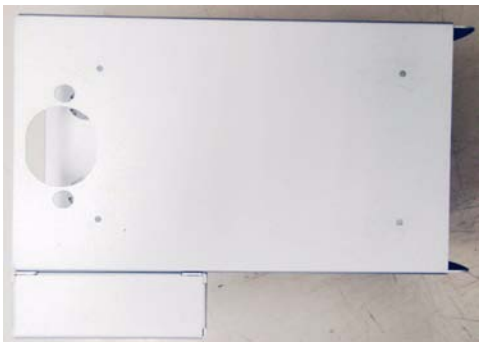
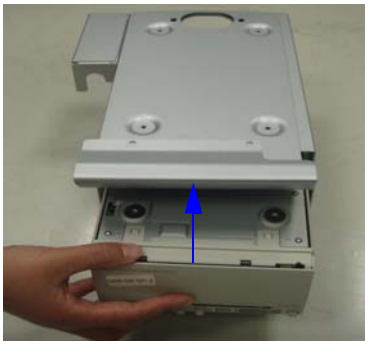


6)



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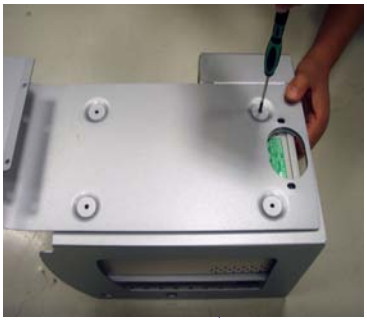
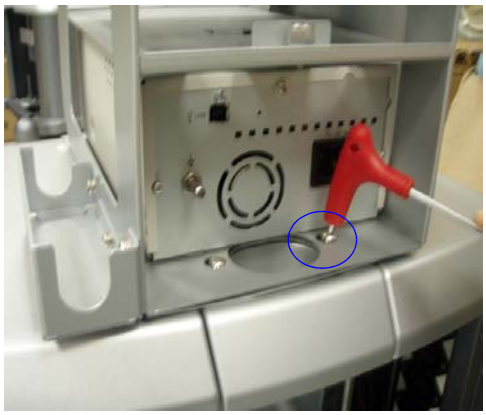


8)

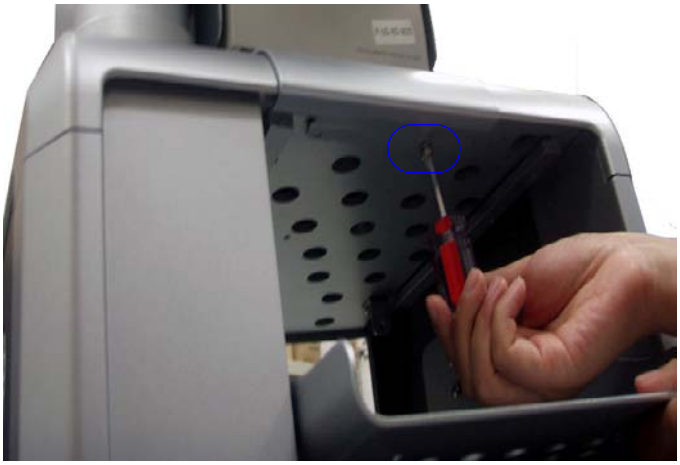
9)

Figure 3-25 Top Support DVD/Print Shelf Assy

3-5-6 Top Support DVD /Print Shelf Assy (cont'd)



10)



11)

Figure 3-26 Top Support DVD/Print Shelf Assy

3-5-7 Connect B/W USB Printer to Docking Cart

3-5-7-1 Tools

- common Phillips screwdriver
- common Allen screwdriver

3-5-7-2 Needed Manpower

- 1 person, 8 minutes+travel

3-5-7-3 Preparations

- Shut down the system and switch off the main breaker.

3-5-7-4 Mounting procedure

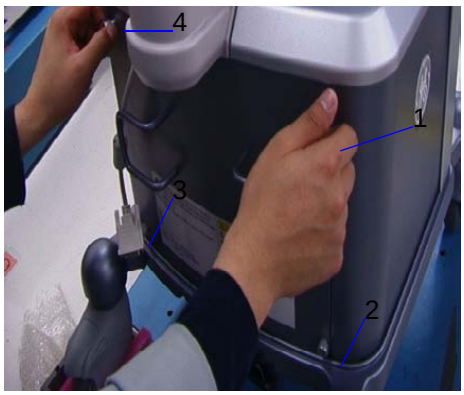
a.) Install the B/W USB Printer in the DVD/Print Shelf.

1.) Loose 4 screws of the rear panel, refer to Figure 3-28 on page 34
2.) Remove the back panel by handling the handle, refer to Figure 3-28 on page 34
3.) Remove the DVD/Print Shelf, refer to Figure 3-28 on page 34 .
4.) Turn over the B/W Print and pull it into the DVD/Print Shelf, refer to Figure 3-28 on page 34 .
5.) Fix the B/W Print on the DVD/Print Shelf with 4 screws, refer to section Figure 3-29 on page 35.
6.) Put the DVD/Print Shelf under the top cabinet and fix it with 2 screws [M4X8], refer to Figure 3-29 on page 35 .
7.) Connect the USB cable to the USB Hub, refer to Figure 3-29 on page 35 .
8.) Replace the power cord of the B/W printer with general using cable. Use the general using cable to connect the B/W printer to the power strip, refer to Figure 3-29 on page 35 .

NOTE: In the DVD/Print Shelf has a srew in order to prevent the moving of the DVD.The user can adjust the postion of the thumb srew between two screw holes according to the size of the DVD.

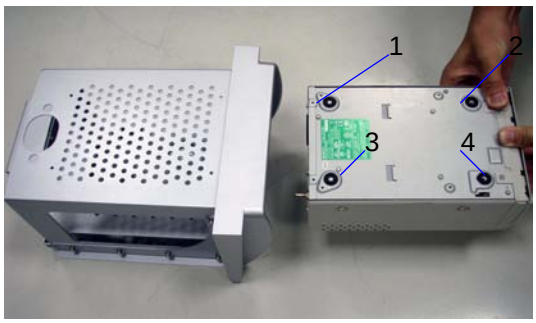
Figure 3-27 Adjust the thumb screw

3-5-7 Connect B/W USB Printer to Docking Cart (cont'd)

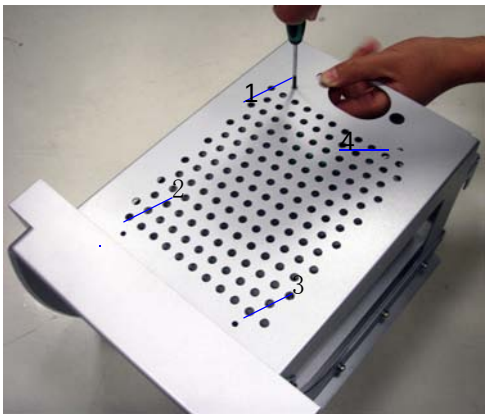


1)

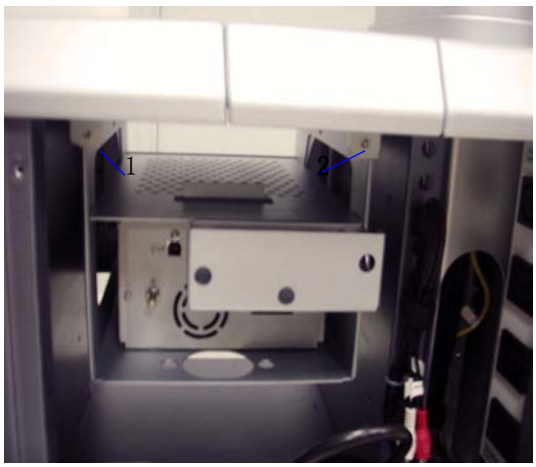
2)



4)



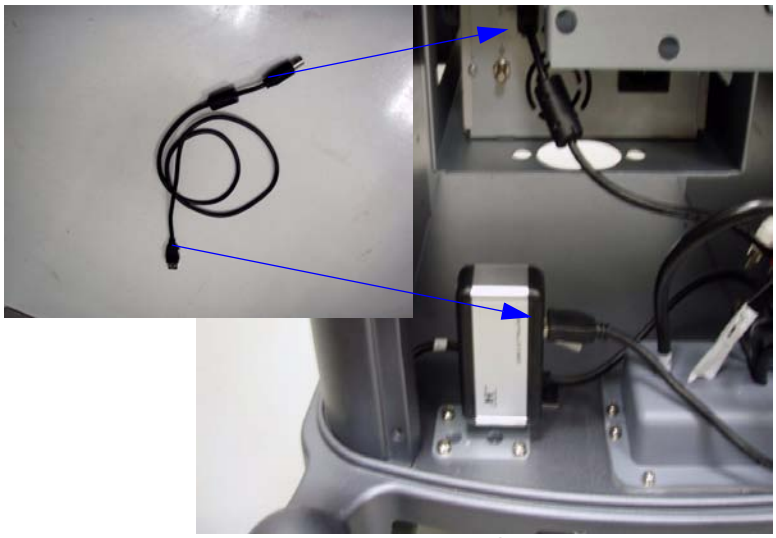
5)



6)

Figure 3-28 B/W USB Printer Installation

3-5-7 Connect B/W USB Printer to Docking Cart (cont'd)



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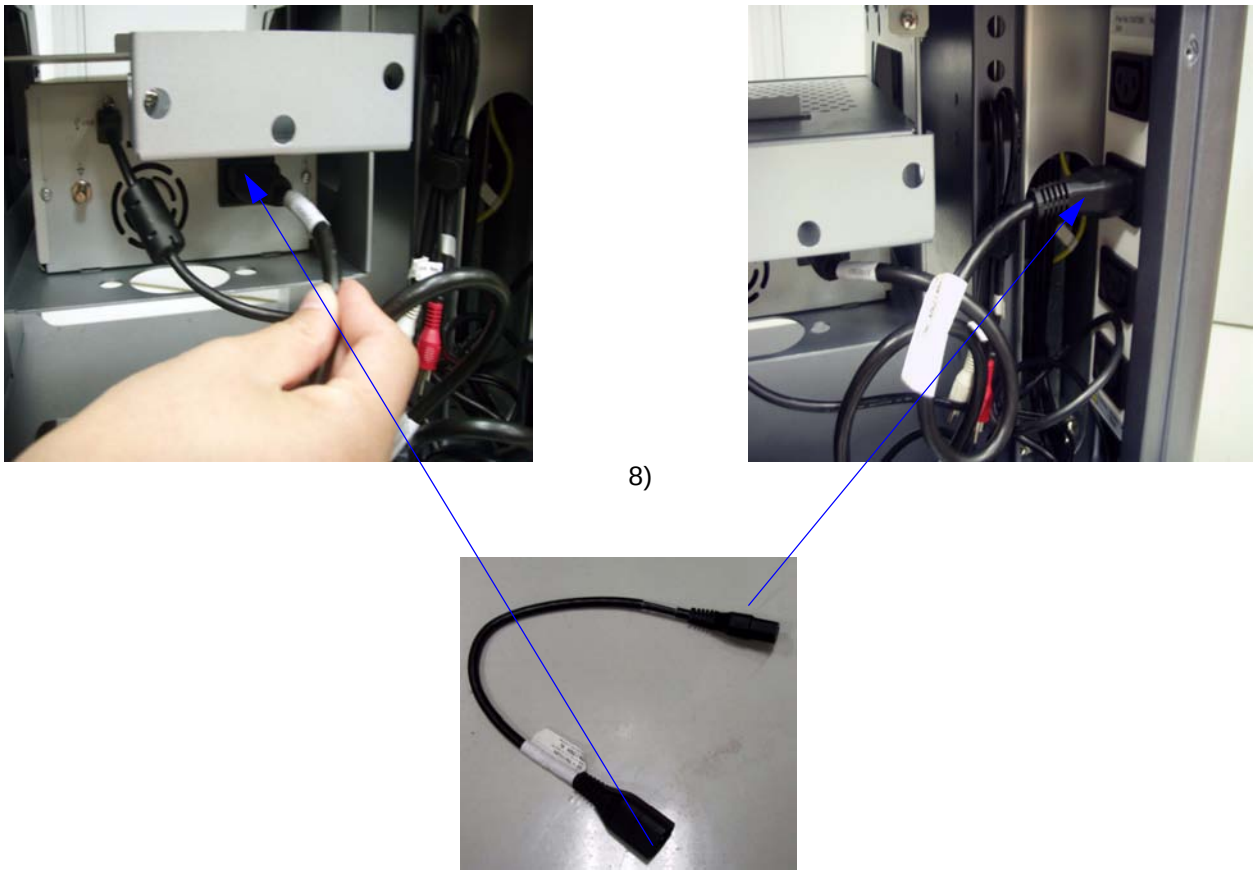
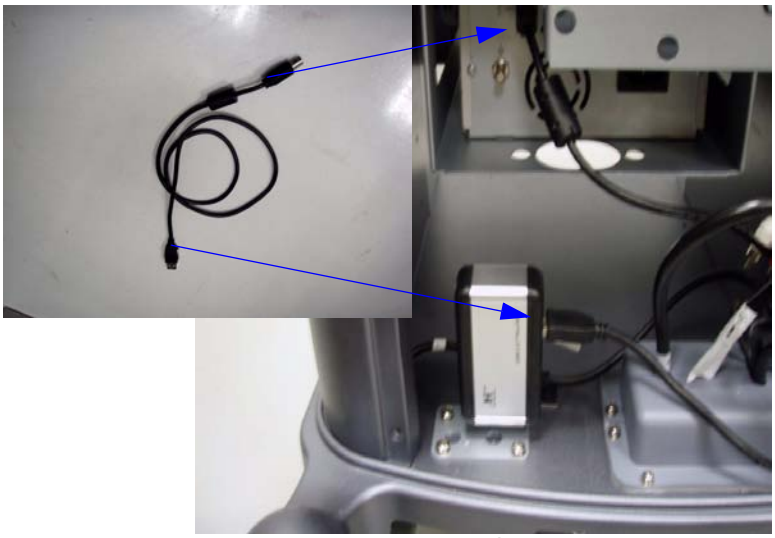


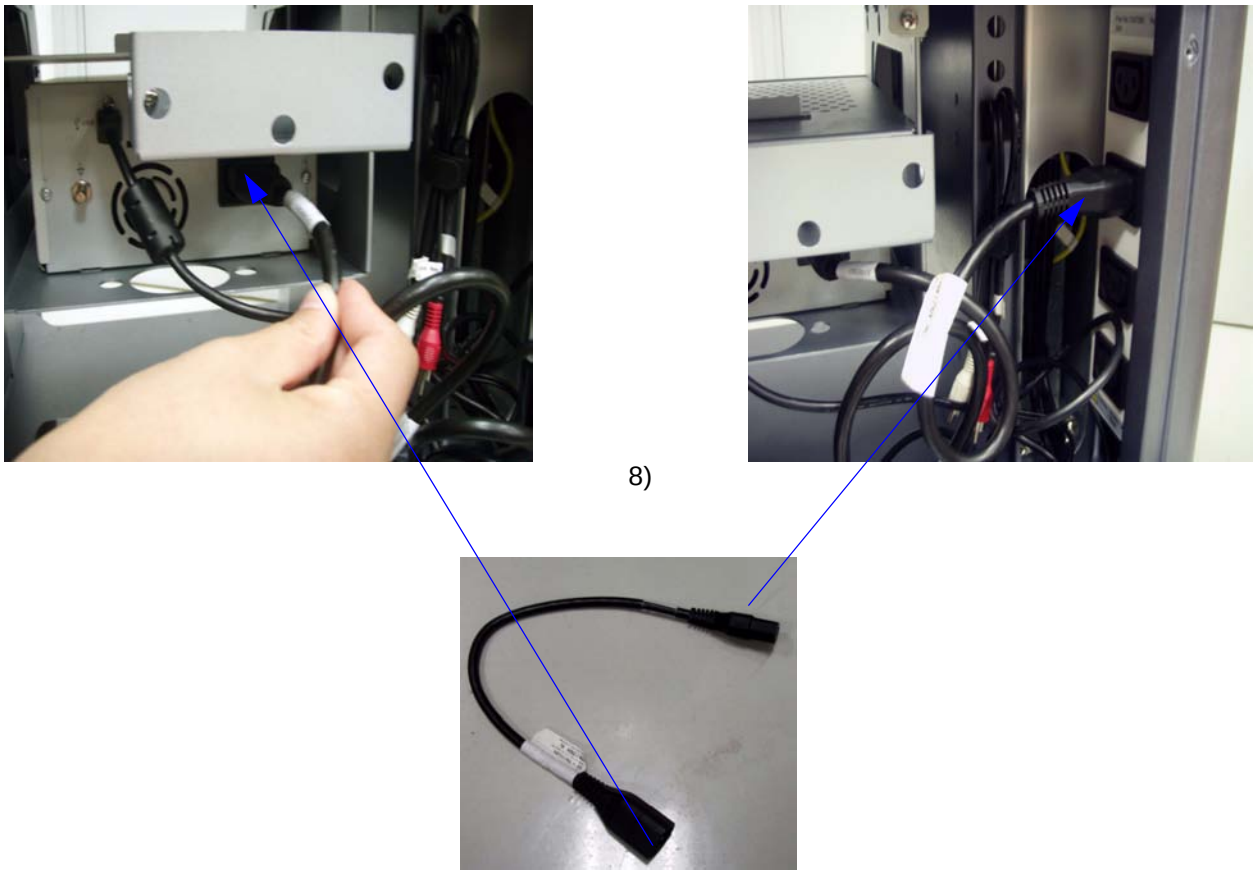
8)

Figure 3-29 B/W USB Printer Installation

3-5-7 Connect B/W USB Printer to Docking Cart (cont'd)



7)



8)

Figure 3-30 B/W USB Printer Installation

3-5-7 Connect B/W USB Printer to Docking Cart (cont'd)

b.) Install the B/W USB Printer to the Top DVD/Print Shelf.

1.) Fix the B/W USB Printer on the Top DVD/Print Shelf, refer to Figure 3-31 on page 38 .

2.) Replace the power cord of the B/W Printer with general using cable. Use the general using cable through the Monitor Support Space Cap to connect the B/W printer to the power strip, refer to Figure 3-31 on page 38 .

3.) Connect the USB cable through the Monitor Support Space Cap to the USB Hub, refer to Figure 3-31 on page 38 .

3-5-7-5 Removal Procedure

Remove the new parts in the reverse order of removal.

3-5-7 Connect B/W USB Printer to Docking Cart (cont'd)

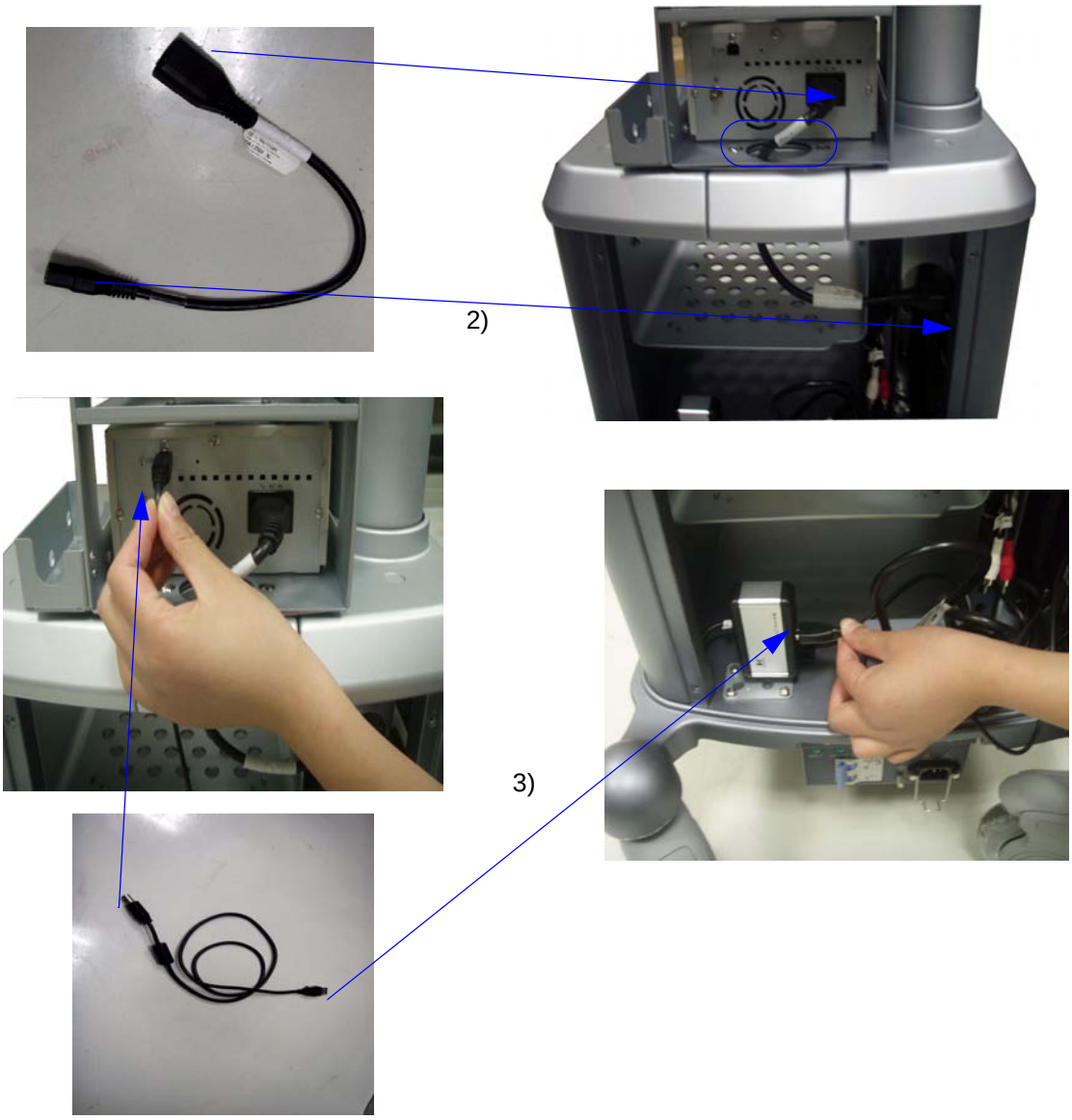


Figure 3-31 B/W USB Printer Installation

3-5-8 Connect DVD-RW to Docking Cart

3-5-8-1 Tools

- Common Hex driver
- common Phillips screwdriver

3-5-8-2 Needed Manpower

- 1 person, 3 minutes+travel

3-5-8-3 Preparations

- Shut down the system and switch off the main breaker.

3-5-8-4 Mounting procedure

a.) Install the DVD-RW on the DVD/Print Shelf.

1.) Install the DVD/Print Shelf on the cabinet, refer to section 3-5-4 on page 26.

2.) Put the DVD-RW on the DVD/Print Shelf, refer to Figure 3-32 on page 40 .

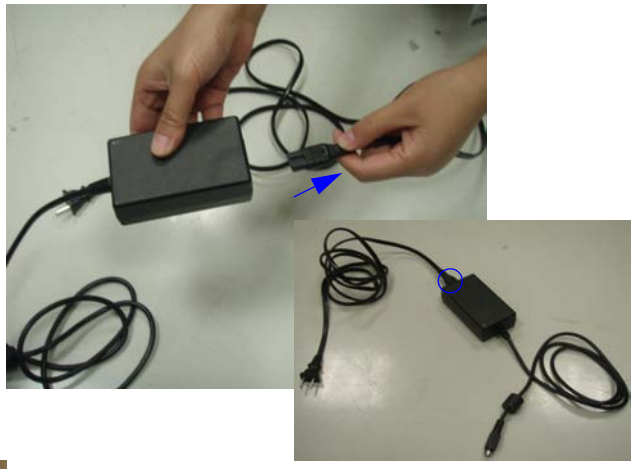
3.) Replace power cord of the DVD-RW with the DVD using cable cord [Part No.5199048]. Use the DVD using cable cord to connect the DVD-RW to the power strip, refer to Figure 3-32 on page 40 .

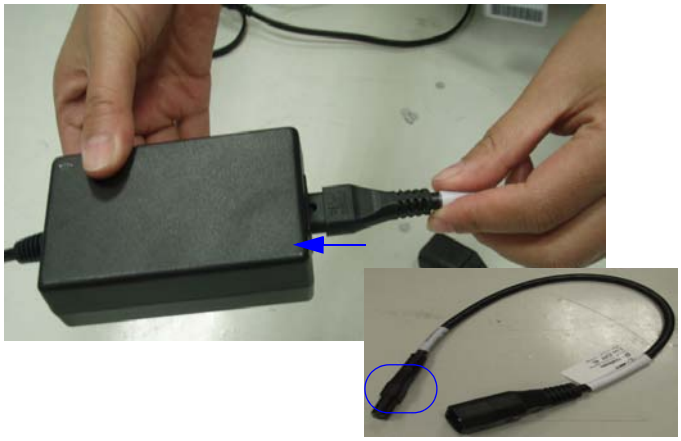
4.) Put AC Adapter in the DVD AC Adapter bracket, refer to Figure 3-32 on page 40 .

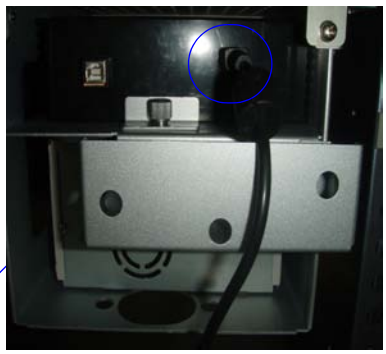
5.) Connect USB cable to the USB Hub, refer to Figure 3-32 on page 40 .

3-5-8 Connect DVD-RW to Docking Cart (cont'd)

2)

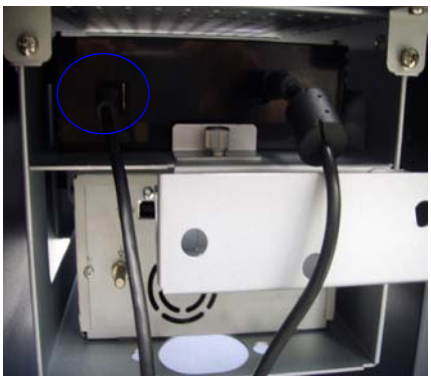






3)

4)



5)

Figure 3-32 DVD-RW Installation

3-5-8 Connect DVD-RW to Docking Cart (cont'd)

b.) Install the DVD-RW on the Top DVD/Print Shelf.

NOTE: Before Install DVD-RW in the Top DVD/Print Shelf, Install B/W USB Print in the Top DVD/Print Shelf.

1.) Install the Top DVD/Print Shelf on the top cabinet, refer to section 3-5-6 on page 30
2.) Install the B/W Print on the Top DVD/Print Shelf, refer to section 3-5-6 on page 30.
3.) Put DVD-RW on the Top DVD/Print Shelf, refer to Figure 3-33 on page 42
4.) Replace power cord of the DVD-RW with the DVD using cable cord [Part No.5199048], refer to Figure 3-32 on page 40 .
5.) Use the DVD using cable cord through the Monitor Support Space Cap to connect the DVD-RW to the power strip, refer to Figure 3-33 on page 42
6.) Put the AC Adapter of the DVD-RW in the DVD AC Adapter bracket, refer to Figure 3-33 on page 42
7.) Connect USB cable through the Monitor Support Space Cap to the USB Hub, refer to Figure 3-33 on page 42 .

3-5-8 Connect DVD-RW to Docking Cart (cont'd)

3)

5)

6)

7)

Figure 3-33 DVD-RW Installation

3-5-8-5 Remove the new parts in the reverse order of removal.

Remove the new parts in the reverse order of removal.

3-5-9 Connect Color USB Printer to Docking Cart

3-5-9-1 Tools

- Common Hex driver
- common Phillips screwdriver

3-5-9-2 Needed Manpower

- 1 person, 5 minutes+travel

3-5-9-3 Preparations

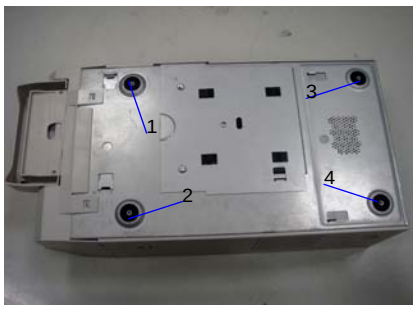
- Shut down the system and switch off the main breaker.

3-5-9-4 Mounting procedure

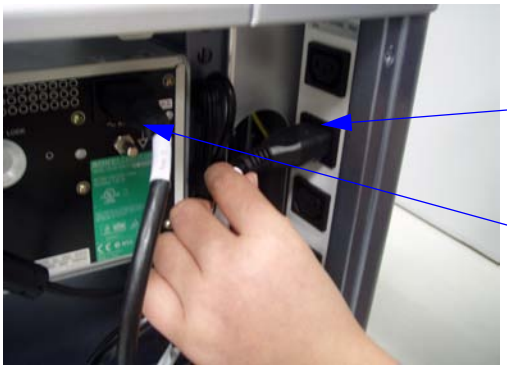
1.) Install the Peripheral Shelf under the top cabinet, refer to section 3-5-5 on page 28.
2.) Put the Color USB Printer on the shelf, refer to Figure 3-34 on page 44 .
3.) Fix the Color USB Printer on the shelf with 4 screws [M3x10], refer to Figure 3-34 on page 44 .
4.) Replace power cord of the print with the general using cable. Use the general using cable to connect the Color USB printer to the power strip, refer to Figure 3-34 on page 44 .
5.) Connect the USB cable to the USB Hub, refer to Figure 3-34 on page 44 .

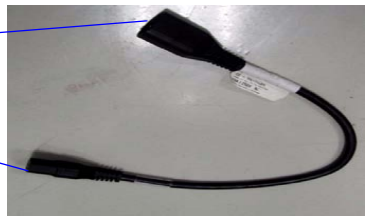
3-5-9 Connect Color USB Printer to Docking Cart (cont'd)

2)

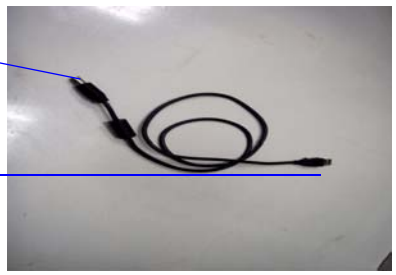


3)





4)



5)

Figure 3-34 Install Color USB Printer

3-5-9-5 Remove the new parts in the reverse order of removal.

Remove the new parts in the reverse order of removal.

3-5-10 Connect DVD Recorder to Docking Cart

3-5-10-1 Tools

- Common Hex driver
- common Phillips screwdriver

3-5-10-2 Needed Manpower

- 1 person, 6 minutes+travel

3-5-10-3 Preparations

- Shut down the system and switch off the main breaker.

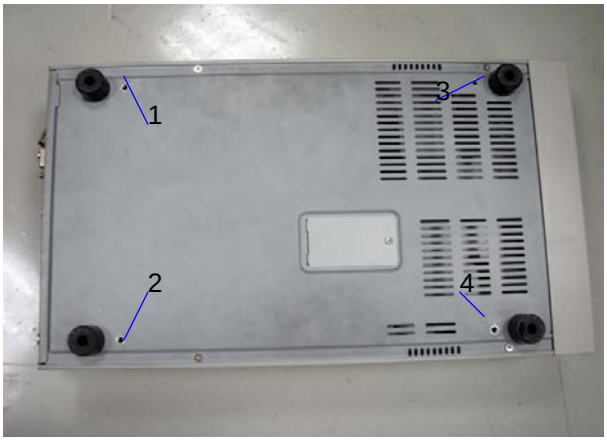
3-5-10-4 Mounting procedure

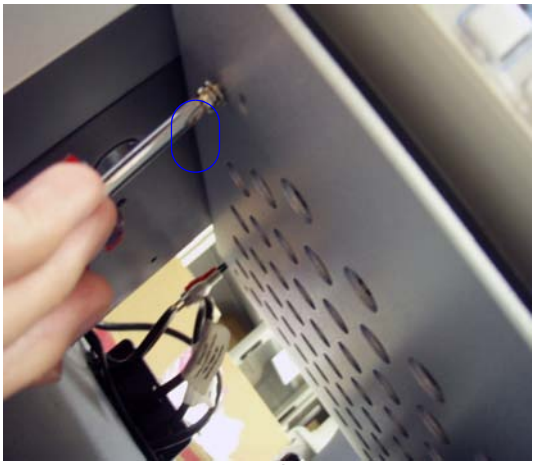
1.) Install the Peripheral Shelf under the top cabinet, refer to section 3-5-5 on page 28.
2.) Put the DVD Recorder on the Peripheral Shelf, refer to Figure 3-35 on page 46 .
3.) Fix the DVD Recorder on the shelf with 4 screw [M4X25], refer to Figure 3-35 on page 46 .
4.) Untie the three cables, refer to Figure 3-35 on page 46 .
5.) Insert the black plug into S-Video in Video In, white plug into CH1(A) in Audio In and red plug into CH2(B) in Audio In, refer to Figure 3-35 on page 46 .
6.) Replace the power of the DVD Recorder with the DVD using cable. Use the DVD using cable to connect the DVD Recorder to the power strip, refer to Figure 3-36 on page 47 .

NOTE: DVR cable should be connected to Docking Cart USB Hub at any time. If DVR USB cable is unplugged from USB Hub under system running state, the DVR can not be recognized by the system only after system full maintenance reboot.

3-5-10 Connect DVD Recorder to Docking Cart (cont'd)

2)





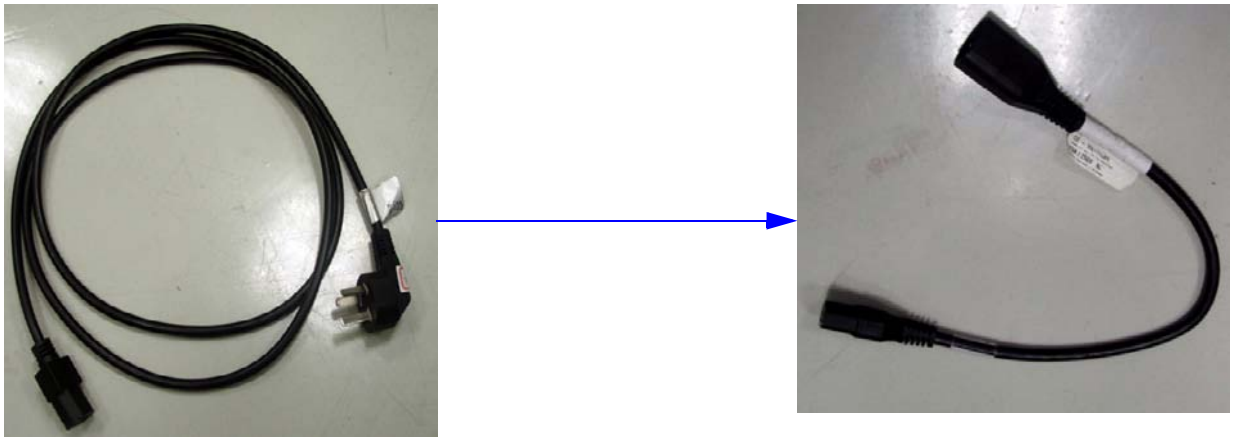
3)

4)

5)

Figure 3-35 DVD Recorder Installation

3-5-10 Connect DVD Recorder to Docking Cart (cont'd)



6)

Figure 3-36 DVD Recorder Installation

3-5-10-5 Remove the new parts in the reverse order of removal.

Remove the new parts in the reverse order of removal.

3-5-11 Connect ECG to Docking Cart

Tools

- No special tools needed

3-5-11-1 Needed Manpower

- 1 person, 3 minutes+travel

3-5-11-2 Preparations

- Shut down the system and switch off the main breaker.

3-5-11-3 Mounting procedure

1.) Install ECG, refer to section Figure 3-37 on page 49.
2.) Put ECG in the ECG bracket, refer to section Figure 3-37 on page 49.
3.) Connect the ECG to the system.

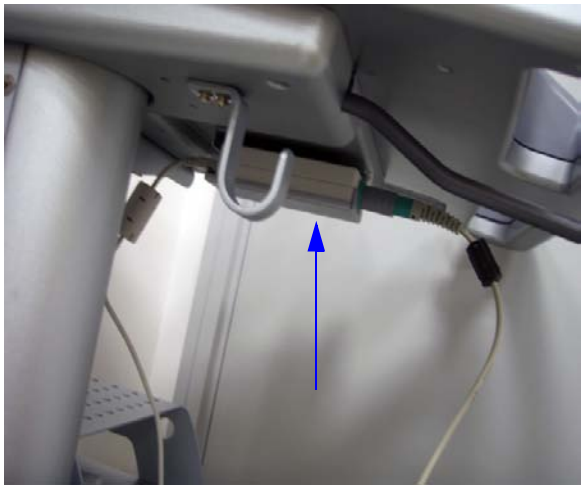
NOTE: If do not use ECG, hang the cable in the ECG cable hook, refer to section Figure 3-37 on page 49.

3-5-11-4 Remove the new parts in the reverse order of removal.

Remove the new parts in the reverse order of removal.

3-5-11 Connect ECG to Docking Cart (cont'd)

1)



2)

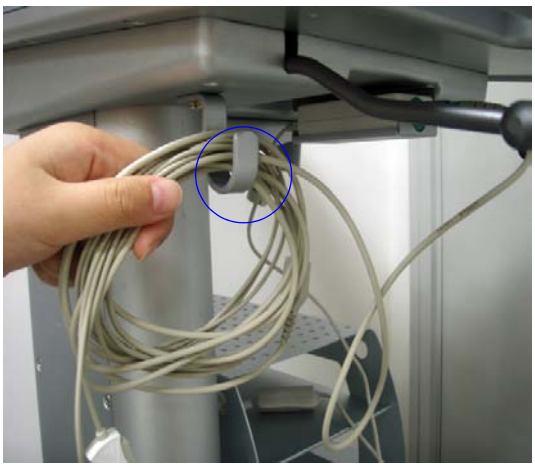


Figure 3-37 ECG Installation

3-5-11-5 Remove the new parts in the reverse order of removal.

Remove the new parts in the reverse order of removal.

3-5-12 Connect UPS to Docking Cart (For Software Version R5.2.x, R6.x.x and R7.x.x)

3-5-12-1 Tools

- Common Hex screwdrivers

3-5-12-2 Needed Manpower

- 1 person,

3-5-12-3 Preparation

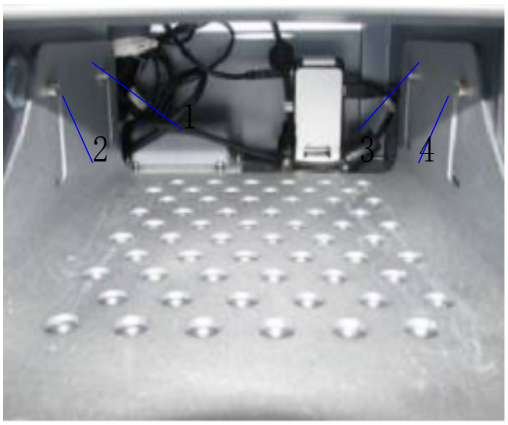
Turn off all the power supply.

3-5-12-4 Mounting procedure

1.) Pull the shelf into the cabinet in the arrow's direction, refer to picture 1 of the Figure 3-38 on page 52
2.) Fasten 4 screws, refer to picture 2 of the Figure 3-38 on page 52 .
3.) Put the UPS in the shelf at the bottom, refer to picture 3 of the Figure 3-38 on page 52 .
4.) Loose 4 screws at the rear panel and remove the rear panel, refer to picture 4 of the Figure 3-38 on page 52 .
5.) Loose 4 screws transformer protective cover, refer to picture 5 of the Figure 3-38 on page 52 .
6.) Pull out the **"General Using Cable"** from the **"From UPS"** port of the transformer and insert it into the **"UPS Input"** port the UPS, refer to picture 6 of Figure 3-38 on page 52 .
7.) Insert one side of Split Cable into the **"UPS Output"** port of the UPS and the other side into the **"From UPS"** port of the transformer respectively, refer to picture 7 Figure 3-38 on page 52 .
8.) Install transformer protective cover and then the UPS can supply power for the system.

3-5-12-4 Mounting procedure (cont'd)

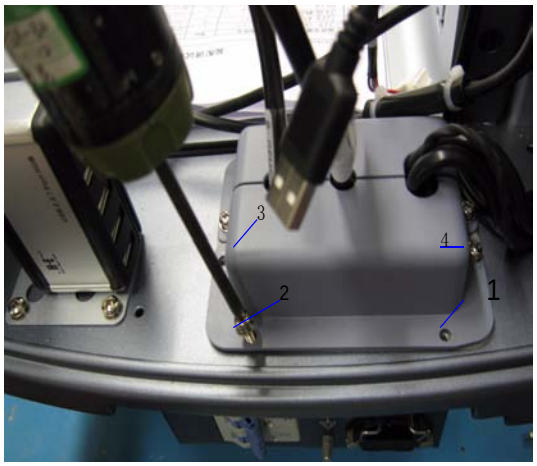
1)

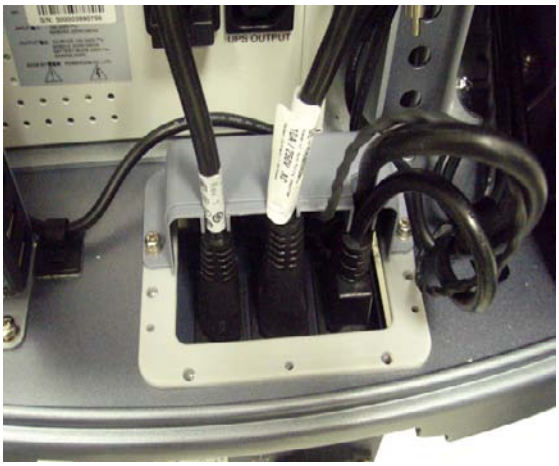


2)

3)

4)



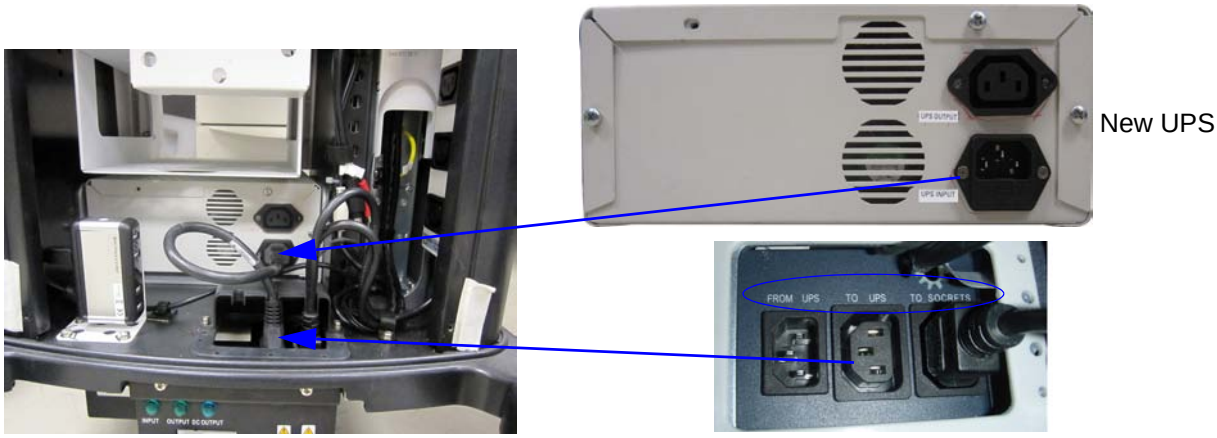


5)

3-5-12-4 Mounting procedure (cont'd)

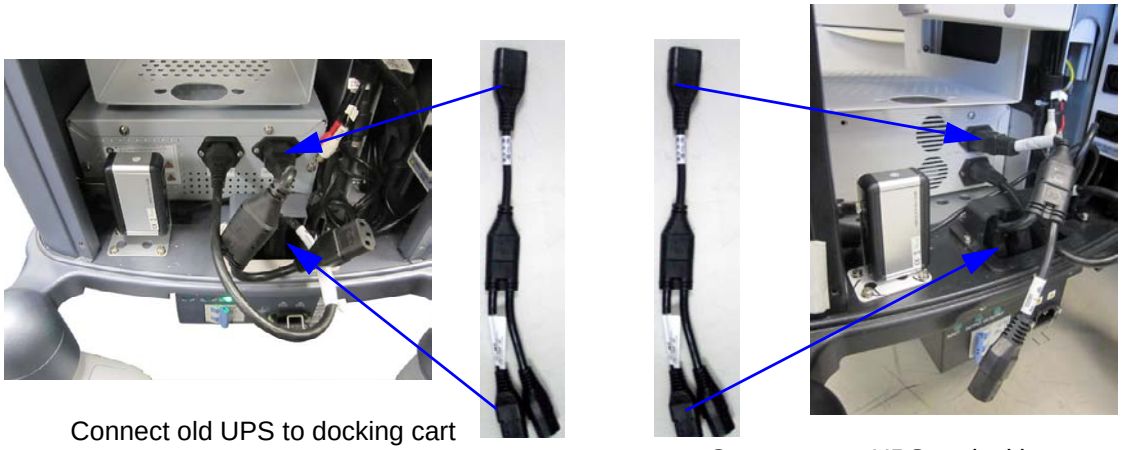
Old UPS

6) For old UPS



New UPS

6) For new UPS



Connect old UPS to docking cart

7)

Connect new UPS to docking cart

Figure 3-38 Connect UPS to Docking Cart

3-5-12-4 Mounting procedure (cont'd)

NOTE: The UPS can supply power for one peripheral through the extra plug of the Split Cable.

NOTE: For old UPS, please refer to section 3-5-13-2 "Matrix of UPS Working Time" on page 3-55 and section 3-5-13-3 "Matrix of Peripheral Working Power Load" on page 3-56 for power consumption and UPS working time.

NOTE: Please refer to section 3-5-15 "Matrix of Peripheral Working Power Load" on page 3-60 for power consumption.

Old UPS

New UPS

Figure 3-39 Split Cable

- Pull out the Peripheral Power Cable from Power Strip and connect it with the extra plug of the Split Cable.

Figure 3-40 Connect Touch Panel or DVD Recorder

3-5-12-4 Mounting procedure (cont'd)

NOTE: The Old UPS can supply power for two peripherals at the same time through another Split Cable. Please refer to section 3-5-13-2 "Matrix of UPS Working Time" on page 3-55 and section 3-5-13-3 "Matrix of Peripheral Working Power Load" on page 3-56 for power consumption and UPS working time.

1.) Connect the other Split Cable with the extra plug of the Split Cable.

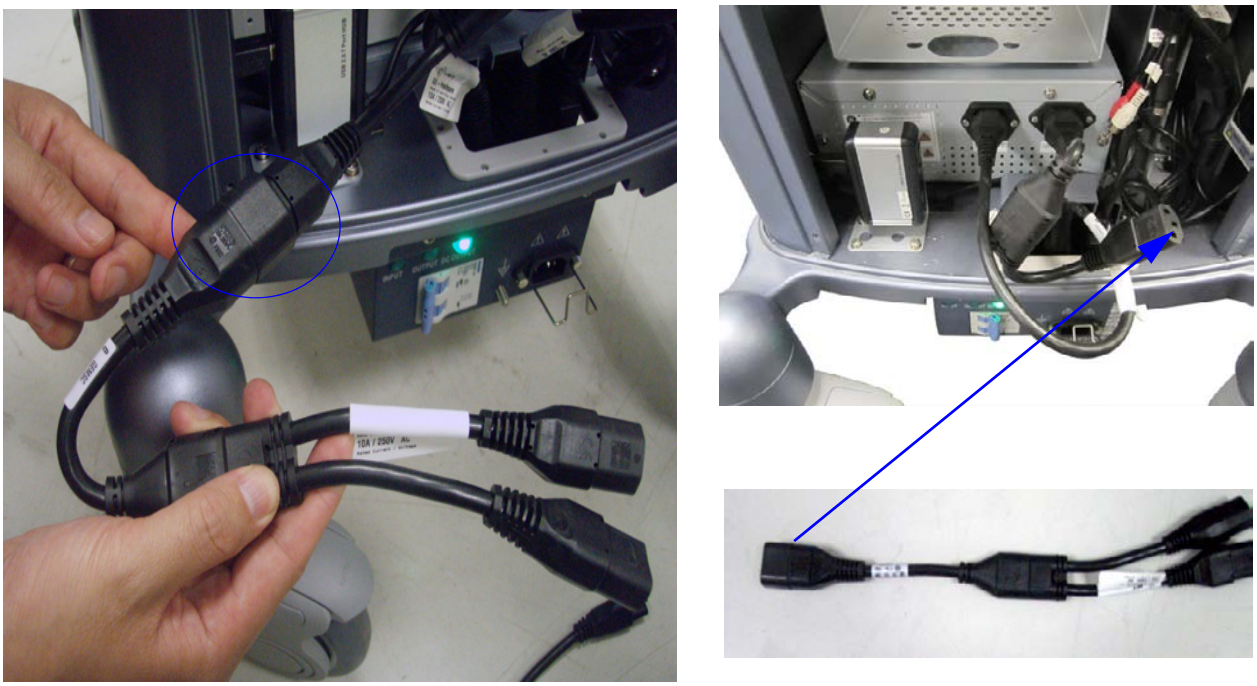


Figure 3-41 Two Split Cables Connection

2.) Pull out the Peripheral Power Cable from Power Strip and connect them with the plugs of the Split Cable.

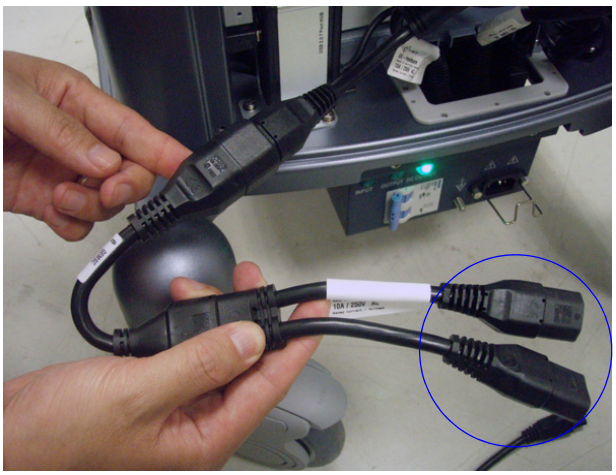


Figure 3-42 Connect with Touch Panel and DVR

3-5-13 Old UPS Usage

3-5-13-1 Cables Installation Diagram

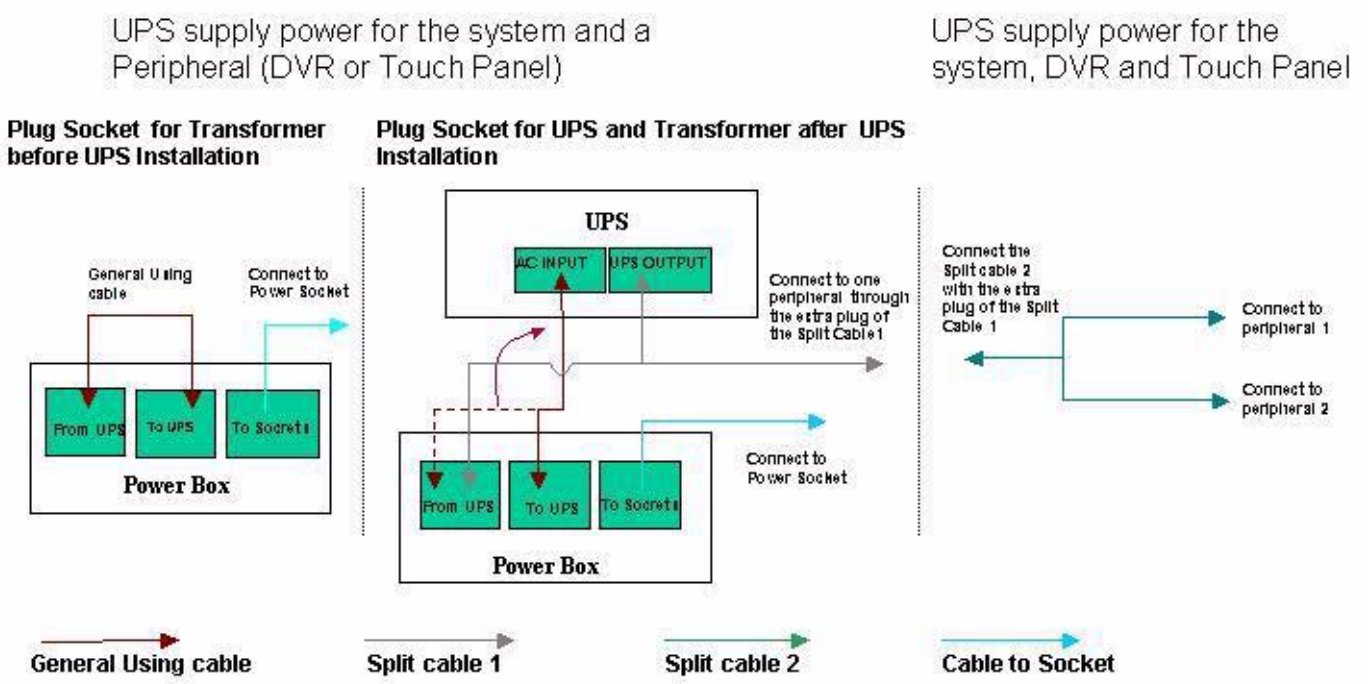

UPS supply power for the system and a Peripheral (DVR or Touch Panel)
UPS supply power for the system, DVR and Touch Panel
Plug Socket for Transformer before UPS Installation
Plug Socket for UPS and Transformer after UPS Installation
General Using cable
Connect to Power Socket
From UPS
To UPS
To Sockets
Power Box
UPS
AC INPUT
UPS OUTPUT
Connect to one peripheral through the extra plug of the Split Cable 1
Connect to Power Socket
Connect the Split cable 2 with the extra plug of the Split Cable 1
Connect to peripheral 1
Connect to peripheral 2
General Using cable
Split cable 1
Split cable 2
Cable to Socket

Figure 3-43

3-5-13-2 Matrix of UPS Working Time

The UPS working Power load should sum up the working power load of all the connected peripherals and the console itself (90W).

NOTE: When the working power load of the UPS is in excess of 180W or 190W. The UPS is overloaded and UPS makes continuous long beep.

Table 3-9 Matrix of UPS Working Time

Working Power Load	Working Time
100W	<=67min
120W	<=60 min
140W	<=52 min
160W	<=44 min
170W	<=37 min
180W	**<=33 min**
190W	**<=30 min**

3-5-13-3 Matrix of Peripheral Working Power Load

Table 3-10 Matrix of Peripheral Working Power Load

Device	Model	Manufacturer	Working Power Load (W)
B/W USB Printer	UP-D897	SONY	101
Color USB Printer	UP-D21MD UP-D23MD	SONY	102
DVD Recorder	MD-800E MD-800U	Panasonic	30
External LCD	170B	SUMSUNG	22
DVD R/W	DX-20A4P LITEON Model eHAU 120 LITEON Model eHAU 324	LITEON	8
	PLEXTOR PX-L890UE	PLEXTOR	24
Color USB Printer	HP470	HP	45
Video Recorder	Pinnacle Video Transfer - 8230-10022-11	Pinnacle	4
Touch Screen		ELO	20

NOTE: When B/W USB Printer and Color USB Printer stand by, the power load are 20W.

3-5-13-4 UPS Charging and Storage

For a long time storage (3 months or more):

- Fully charge the UPS before storage
- Store the UPS in a temperature range between 0° C and 45° C.
- Do the fully charge for the UPS every 3 months

NOTE: Do the full charge before UPS usage.

3-5-13-5 Power on

Hold power on button more than 4 seconds to power on UPS.

3-5-13-6 Power off

Hold power on button more than 4 seconds to power off UPS.

3-5-13-7 UPS LED Indication

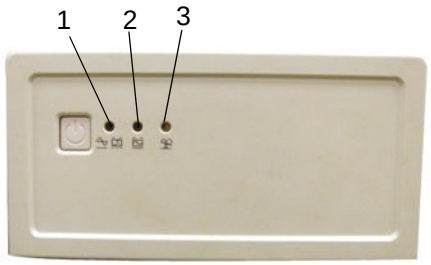


Figure 3-44

1.) Green Light
2.) Orange Light
3.) Yellow Light

- Connect the Docking Cart to the electric power source.
  a.) If the green light flashes, the UPS is on charging and transmitting power to external.
  b.) If the green light stops flashing, the UPS is fully charged.
- Cut off the electric power source.
  a.) If the user cut off the electric power source, the orange light is on and supply power internally
  b.) If the power uses up soon, the orange light is flashing in order to remind the power insufficient.

3-5-13-8 UPS Sound Reminder

- UPS makes one beep (about 2 seconds) and switches to its internal battery back up mode when the wall AC power is absent.
- UPS makes continuous short flicker beep, when the power of UPS is coming to empty, at the same time, the yellow LED will flicker.
- UPS makes continuous long beep and the blue LED will be turned on when the UPS is overloaded. The overloaded threshold varies from 160 W (for old battery) to 180W (for new battery).

NOTE: Judge the UPS work condition according to the UPS indicator light and the UPS Sound Reminder in order to avoid UPS being damaged.

NOTE: When UPS's Orange Indicator LED flashing and flicker beep (the power will use up soon), please plug the Docking Cart into wall AC Outlet to charge the UPS or power off the UPS immediately and charge UPS before using it next time.

NOTE: When UPS's Blue Indicator LED lighting and continuous long beep, the UPS is overloaded. Please cut off the peripherals immediately.

3-5-14 New UPS Usage

3-5-14-1 UPS cables Installation Diagram

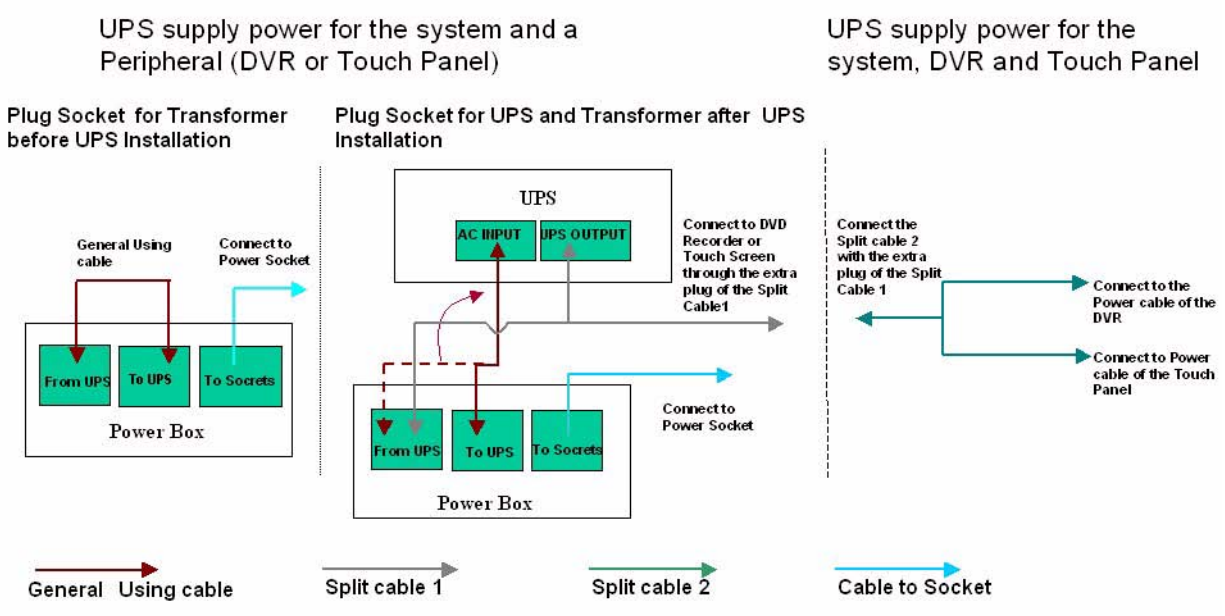

UPS supply power for the system and a Peripheral (DVR or Touch Panel)
UPS supply power for the system, DVR and Touch Panel
Plug Socket for Transformer before UPS Installation
Plug Socket for UPS and Transformer after UPS Installation
General Using cable
Connect to Power Socket
From UPS
To UPS
To Socrets
Power Box
UPS
AC INPUT
UPS OUTPUT
Connect to DVD Recorder or Touch Screen through the extra plug of the Split Cable1
Connect to Power Socket
Connect the Split cable 2 with the extra plug of the Split Cable 1
Connect to the Power cable of the DVR
Connect to Power cable of the Touch Panel
General Using cable
Split cable 1
Split cable 2
Cable to Socket

Figure 3-45 UPS cables installation Diagram

NOTE: When B/W USB Printer and Color USB Printer stand by, the power load are 20W.

3-5-14-2 UPS Usage

NOTE: Please avoid dropping the UPS.

3-5-14-3 UPS Charging and Storage

For a long time storage (3 months or more):

- Fully charge the UPS before storage
- Store the UPS in a temperature range between 0° C and 45° C.
- Do the fully charge for the UPS every 3 months

NOTE: Do the full charge before UPS usage.

3-5-14-4 Power on /off the UPS

Press **Power on /off** switch to turn the UPS power on.

Press **Power on /off** switch for 3 seconds to shutdown the UPS.

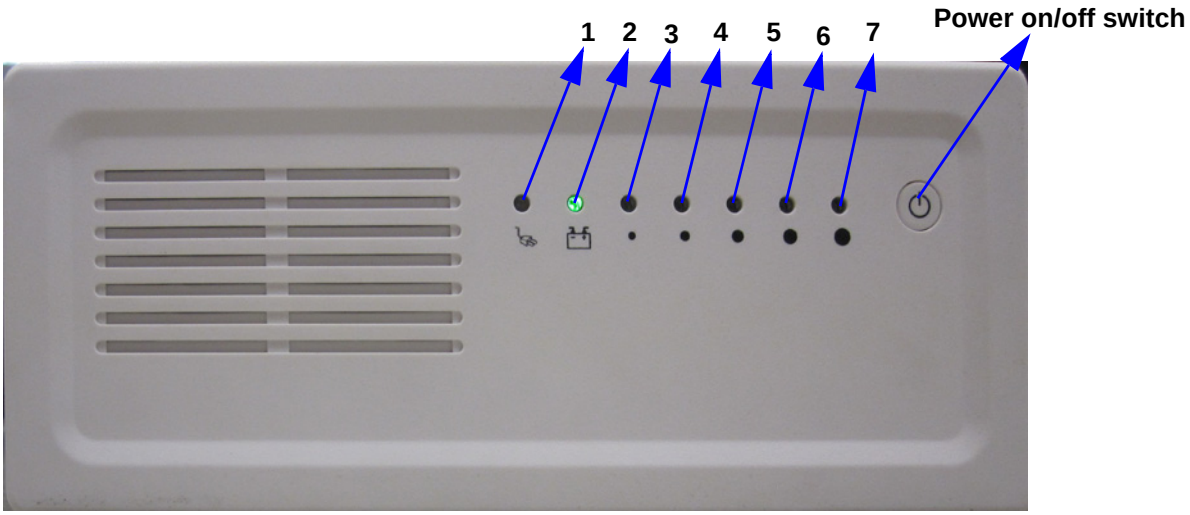


Figure 3-46

NOTE: When connect the Docking Cart power cord to the wall AC outlet, please power on the UPS. Otherwise the console system and peripherals cannot get power from the Docking Cart.

NOTE: When use UPS to provide power for console system and peripherals, please power on the UPS. Otherwise the console system and peripherals cannot get power from the UPS.

3-5-14-5 LED Indication

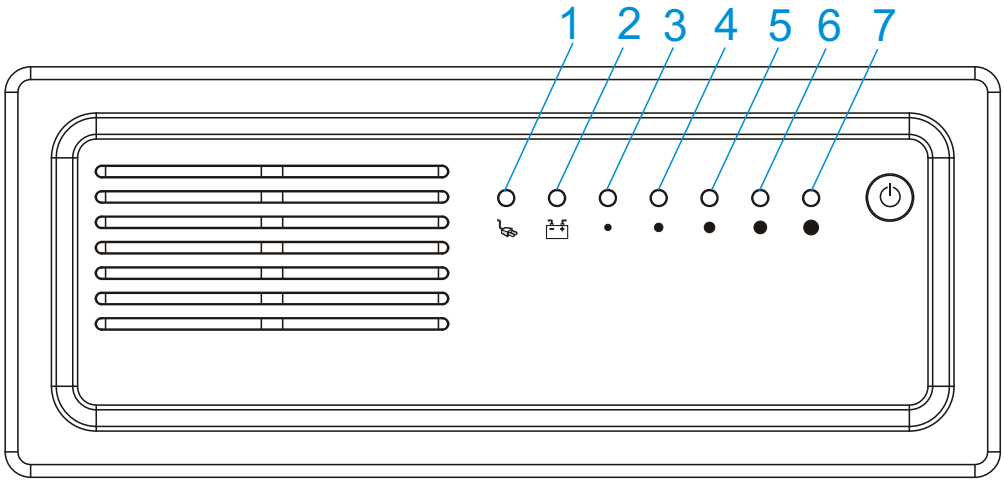


Figure 3-47 UPS LED Indication

LED 1 indicates the UPS is connected with the electric power source and on charging or not.

LED 2 indicates the UPS is transmitting power to the external or not.

LED 3,4,5,6,7 indicate UPS power remaining capacity. The capacity is >10%,>20%,>40%,>60%,>80%.

3-5-14-6 UPS Status

1.) If UPS is only on charging, all the LED will be green except LED 2.

2.) If UPS is on charging and discharging, all the LED will be green and LED 3,4,5,6,7 indicate the UPS power remaining capacity.

3.) If the electric quantity of the UPS is full and the UPS is disconnected with electric power source, the UPS is on discharging. For this status, only LED 2 is green, but if the UPS keep discharging for a while, all the LED will green except LED 1.

4.) If the UPS power remaining capacity is low, only LED 3 will be green.

5.) If the UPS power remaining capacity is less than 10%, LED 3 will flash.

3-5-15 Matrix of Peripheral Working Power Load

NOTE: The UPS working Power load should sum up the working power load of all the connected peripherals and the console itself. The console power consumption is 90W.

NOTE: The maximum rated power load of the UPS is 200W.Please do not overload. (For example, do not use B/W USB Printer and Color USB Printer together.)

Table 3-11 Matrix of Peripheral Working Power Load

Device	Model	Manufacturer	Working Power Load (W)
B/W USB Printer	UP-D897	SONY	101
Color USB Printer	UP-D21MD UP-D23MD Up-D25MD	SONY	102
DVD Recorder	MD-800E MD-800U	Panasonic	30
External LCD	170B	SUMSUNG	22
DVD R/W	DX-20A4P LITEON Model eHAU 120 LITEON Model eHAU 324	LITEON	8
	PLEXTOR PX-L890UE	PLEXTOR	24
Color USB Printer	HP470	HP	45
Video Recorder	Pinnacle Video Transfer - 8230-10022-11	Pinnacle	4
Touch Screen		ELO	20

Section 3-6
Paperwork

NOTE: During and after setup, the documentation (i.e. User Manuals...) for the peripheral units must be kept as part of the original system documentation. This will ensure that all relevant safety and user information is available during the operation and service of the complete system.

3-6-1 Product Locator Installation

NOTE: The Product Locator Installation Card shown may not be same as the provided Product Locator card.

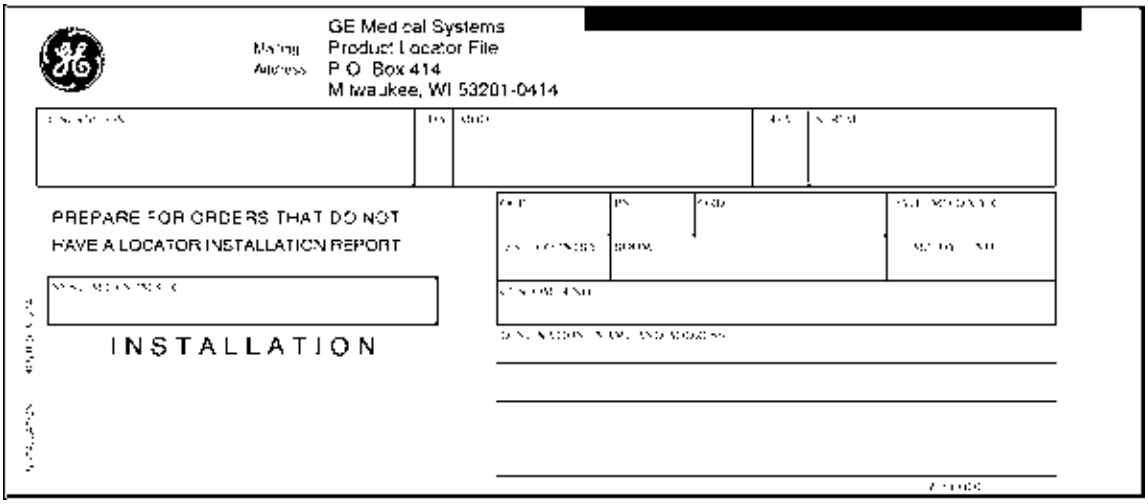


Figure 3-48 Product Locator Installation Card

3-6-2 User Manual(s)

Check that the correct User Manual(s) for the system and software revision, is included with the installation. Specific language versions of the User Manual may also be available. Check with your GE Sales Representative for availability.

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Chapter 4
Cart using

Section 4-1
Overview

4-1-1 Purpose of Chapter 4

This chapter provides procedures for mounting the system to Docking Cart and releasing the system from Docking Cart.

Table 4-1 Contents in Chapter 4

Section	Description	Page Number
4-1	Overview	4-1
4-2	Height Adjustment	4-1
4-3	Locking the wheels	4-1
4-4	General Procedure	4-3
4-5	General Procedure	4-3
4-6	System Operation	4-7

Section 4-2
Height Adjustment

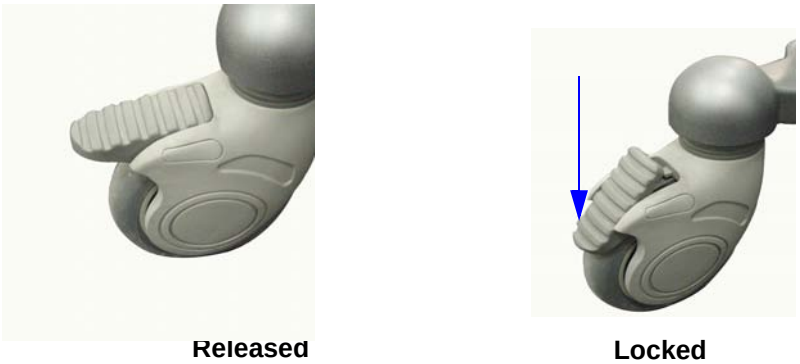
To adjust the height of the mounting-platform raise the Release lever and pull the platform up or push it down with both hands, the traveling distance is 140mm.

When the lever is released the platform remains at the adjusted height.

Section 4-3
Locking the wheels

Depress the front of the Brake Lever with your foot. With the Brake Lever down the rolling and swivel function are locked.

tion .



Released Locked

Figure 4-49 Released and Locked positon

Section 4-4Switch the Three Probe

The system can switch the probe between the three probe which are connected in the Docking Cart Three Probes Box.

From the keyboard, press the **Preset** key. The Probe screen appears.Select the probe which

you want.

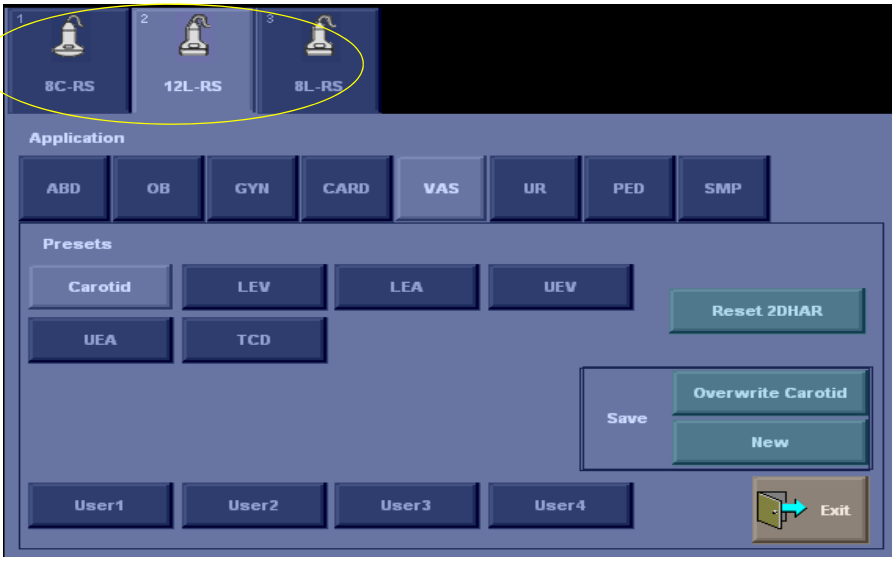


Figure 4-50 Probe Screen

NOTE: 6Tc-RS probe can not be used with Docking Cart.

NOTE: If the docking Cart loses power ,the factory default probe is the probe which is connected to port3 .

Section 4-5
General Procedure

4-5-1 Mounting the system to Cart

The system can be mounted either while the display screen is closed (system is fully shut-down or in standby mode) or while the display screen is open and the system is powered On or Off.

NOTE: A battery or an empty battery-shell should always be attached to the system before mounting system to the cart.

⚠ **CAUTION** ***Use caution when mounting system while it is turned-on to avoid shocks or vibrations which may be harmful to the hard-drive.***

To mount the system to the cart:

1.) Hold the system slightly tilted towards you and place the front bottom part over the front sliding guides.

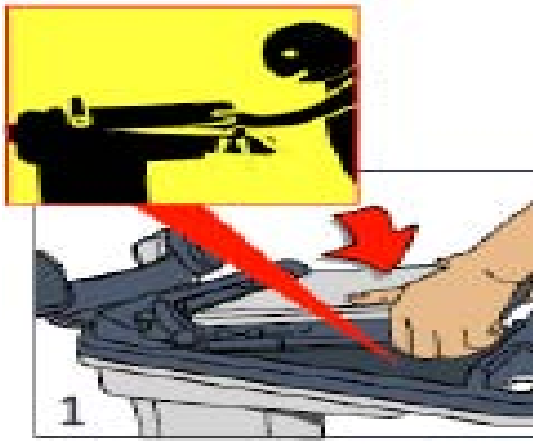


Figure 4-51 Hold system on the plantform

NOTE: When put the system on docking cart top cover ,aviod injuring the fingures and hands.

2.) Lower the rear part of the system to sit over the rear sliding guides. Push the system towards the rear until you feel that in stops and you rear a click (While pushing the system to the rear, prop the vertical plane behind the handles with fingers so that the cart does not move).

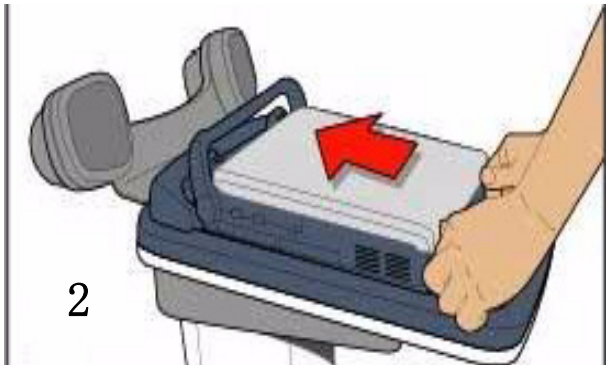


Figure 4-52 Fixup the system on the cart

Section 4-5 General Procedure (cont'd)

3.) Rotate the system handle to the rear of LCD stoppers to lock the system.At this stage the system should be locked well on all four comers.Gently pull the system up to verify that it is locked well and can not be easily released.

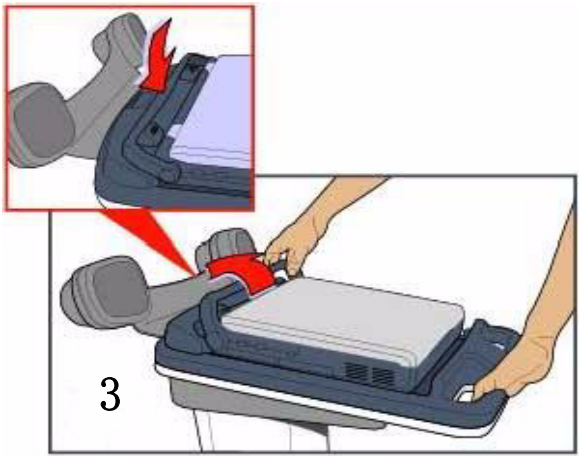


Figure 4-53 Lock the system on the cart

4.) Connect the probe on the system, press the probe connector locking lever up.

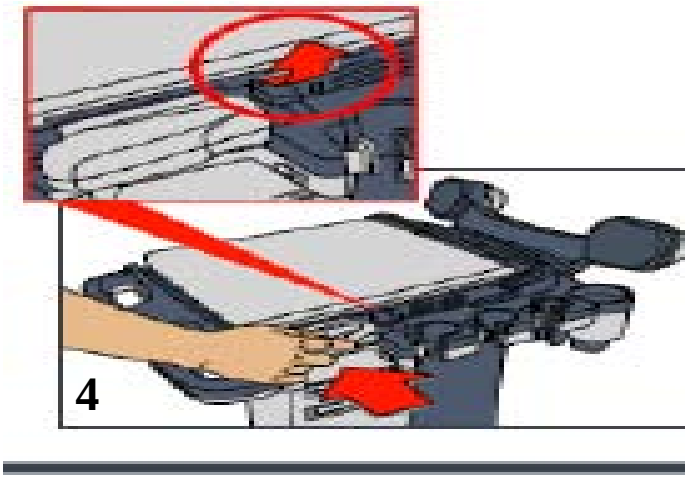


Figure 4-54 Lock the probe on the system

4-5-2 Releasing the system from mounting platform

The system can be dismounted from the cart either while display screen is closed (system is powered OFF or in standby mode) or while the display screen is open and the system is either powered ON or OFF.

Before dismounting the system while it is powered ON, be sure to check availability and charge of battery, as system will switch-over to battery operation as it is released.

To release the system from mounting platform:

1.) Disconnect the probe cable of three probe box while remove the system from docking cart platform.

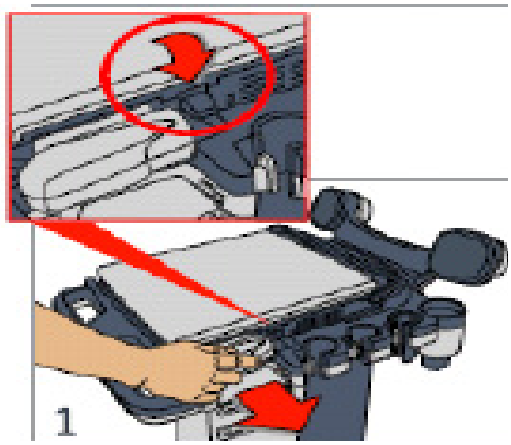


Figure 4-55 Unlock the probe

2.) Rotate the handle to unlock system.

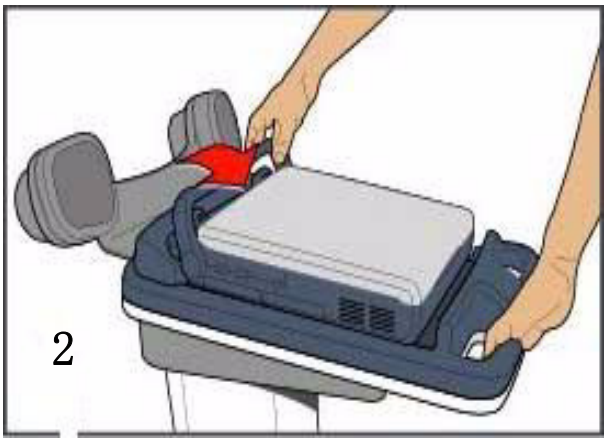


Figure 4-56 Unlock the system

Section 4-5 General Procedure (cont'd)

3.) Place palm of one hand on the handle and push the system release button toward you with the other hand until it stops, then release the button back to it's normal position.Lift up the system from the platform.

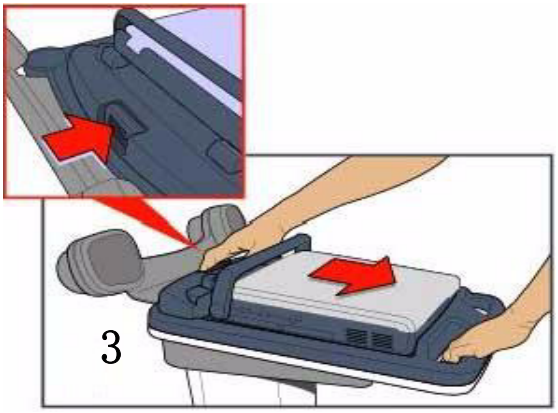


Figure 4-57 Release the system from Cart

4.) Lift up the system from the platform.

Figure 4-58 Lift up the system from cart

Section 4-6
System Operation

Docking Cart supporting Healthcare system as below:

- Vivid e
- LOGIQ e
- LOGIQ e Vet
- LOGIQ i

Any information about system operation, please refer to the relevant Service manual 5370626-100.

NOTE: Before upgrading the system ,please release the system from the mounting platform.When Upgrading the system, please connect the DVD-RW to the USB port of the system directly.

NOTE: The docking cart only supports the System (R5.x.x, R6.x.x and 7.x.x). If the system (R4.x.x) are installed on the docking cart, the console will crash down.

NOTE: If power off Docking Cart,open the circuit breaker and then pull out the AC Power Cord from the wall AC outlet.

NOTE: If power on Docking Cart,plug the AC Power Cord into the wall AC outlet and then close the circuit breaker.

Please do not plug the AC Power into the wall in the state of closing the circuit breaker.

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Chapter 5
Components and Functions (Theory)

Section 5-1
Overview

5-1-1 Purpose of Chapter 5

This chapter explains Docking Cart's system concepts, component arrangement, and subsystem function.

Table 5-1 Contents in Chapter 5

Section	Description	Page Number
Section 5-1	Overview	5-1
Section 5-2	Block Diagram	5-2
Section 5-3	Information	5-3
Section 5-4	Supported external Interface/Port	5-4

Section 5-2
Block Diagram

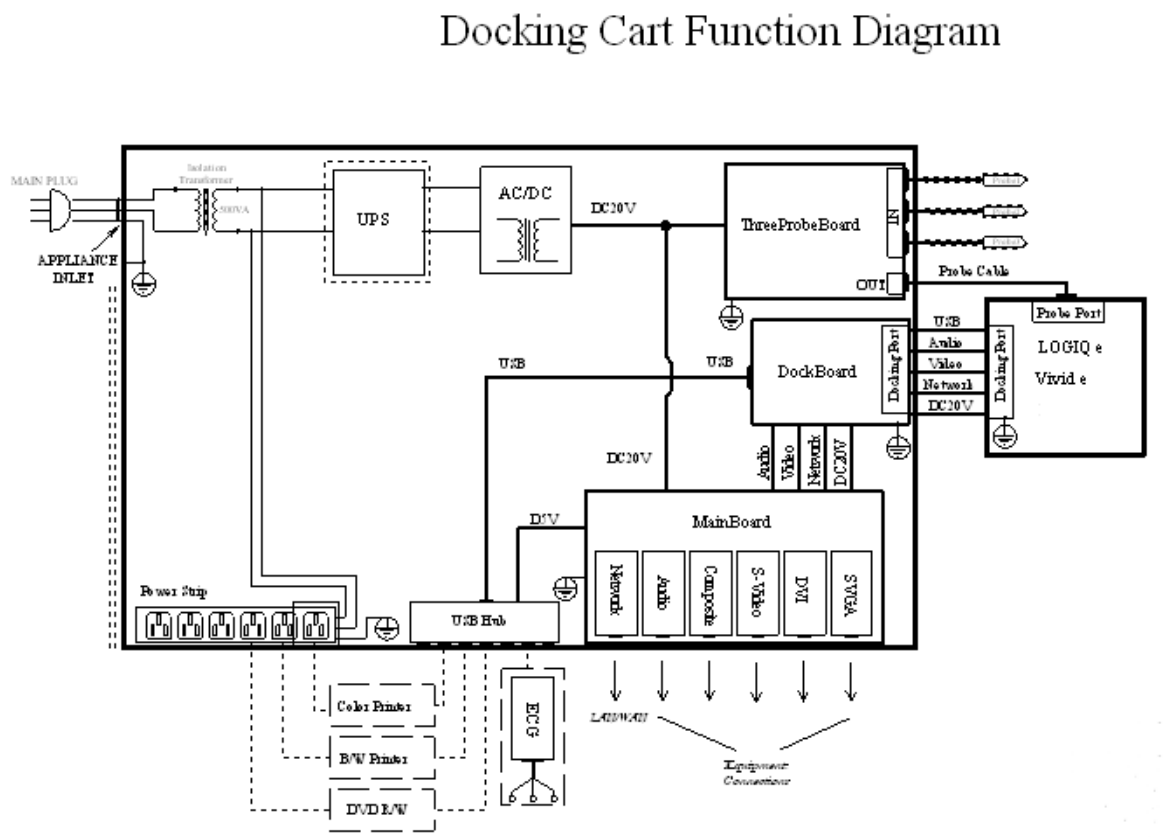


Figure 5-1 Docking Cart Function Diagram

Section 5-3Information

- Isolation Transformer

  It is a power module of Docking Cart, which has ability isolate the Docking Cart power system with AC wall on electric level.

- AC-DC

  It is a AC-DC adapter. It provides the DC20V to LOGIQ e/Vivid e/LOGIQ i ，Three Probe Board and MainBoard.

- DockBoard

  DockBoard is a PWA, it has a Docking Port, which is responsible for docking and connecting to the LOGIQ e/Vivid e/LOGIQ i. Meanwhile, the DC20V Power is transferred via this PWA Board and LOGIQ e/Vivid e/LOGIQ i's USB Port is extended from this board to USB HUB.

- ThreeProbeBoard

  It is threeprobe funtion block main part, which has ability to switch and select one of three probes to active, it extends the LOGIQ e/Vivid e/LOGIQ i's probe port from one to three.

- MainBoard

  It is a PWA, which take most charge of the Docking Cart electric system: Network, Audio, TV Output, DVI and VGA.

Section 5-4Supported external Interface/Port

Table 5-2 Supported external Interface/Port

Item	Interface/Port Name	Description
1	VGA	Support to 1024x768,60Hz
2	DVI	Support to 1024x768,60Hz
3	S-Video	NTSC and PAL
4	Composite	NTSC and PAL
5	Network	10M/100M anto-adaptive
5	USB 2.0	7 USB 2.0 ports

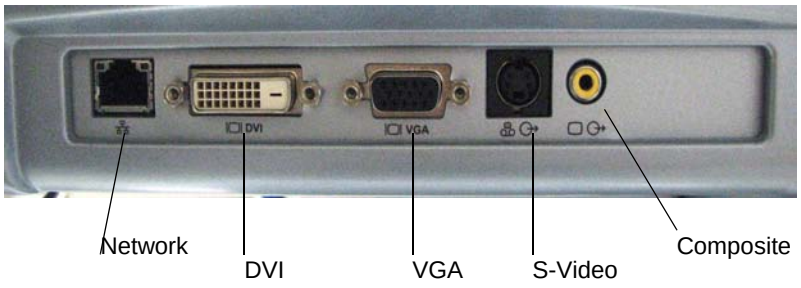


Figure 5-2 Supported external Interface/port

Chapter 6
Service Adjustments

Section 6-1
Overview

6-1-1 Purpose of this chapter 6

This section describes how to test and adjust the functions. These tests are optional. You may use them to check the system for errors.

Table 6-1 Contents in chapter

Section	Description	Page Number
6-1	Overview	6-1
6-2	Regulatory	6-1
6-3	Adjust the Display Monitor(Software Version R5.2.x, R6.x.x and R7.x.x)	6-2
6-4	Control and Adjust LCD Function Keys	6-5

Section 6-2
Regulatory

Verify, where applicable, that any regulatory information or tests required by national law are present and accounted for, and any regulatory tests required by national law are performed *and* documented.

Section 6-3Adjust the Display Monitor(Software Version R5.2.x, R6.x.x and R7.x.x)

6-3-1 Rotate, tilt, raise and lower the monitor

The monitor position can be adjusted for easy viewing.

• The monitor can be rotated around its central pivot point.

• The monitor can be tilted for the optimum viewing angle.

• The monitor and console panel can be raised or lowered for the best viewing height.

6-3-2 Rotate the Articulatory Arm

The monitor posistion can be adjusted by rotating the Articulatory Arm.

6-3-2-1 Rotate Angle

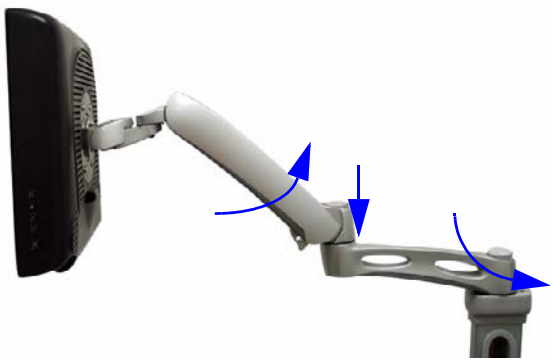
Articulatory Arm (Flexible Arm only)

- Horizontal Level:Left 50 degrees,Right 50 degrees.
- Vertical Level:Down 25 degress.

Articulatory Arm (Flexible Arm and Second Arm)

- Horizontal Level:180 degres
- Vertical Level:50 degress.
- Horizontal Level;180 degress(Second Arm)

Articulatory Arm (Flexible Arm only)



Articulatory Arm (Flexible Arm and Second Arm)

Figure 6-1 Rotate Angle

Section 6-3 Adjust the Display Monitor(Software Version R5.2.x, R6.x.x and R7.x.x) (cont'd)

NOTE: Use Common Hex screwdrivers to fasten the Hinge Screw, if the Touch Panel comes adrift.

Type of the screw: M6X20.

Figure 6-2 Hinge Screw

NOTE: Use Common Hex screwdrivers to fasten the Arm Force Adjust Screw , if the arm comes adrift.

When fasten the screw, please hold the Touch Panel with one hand and place the Touch Panel in the position as the following picture.

Type of the screw: M6 Hex Screw.

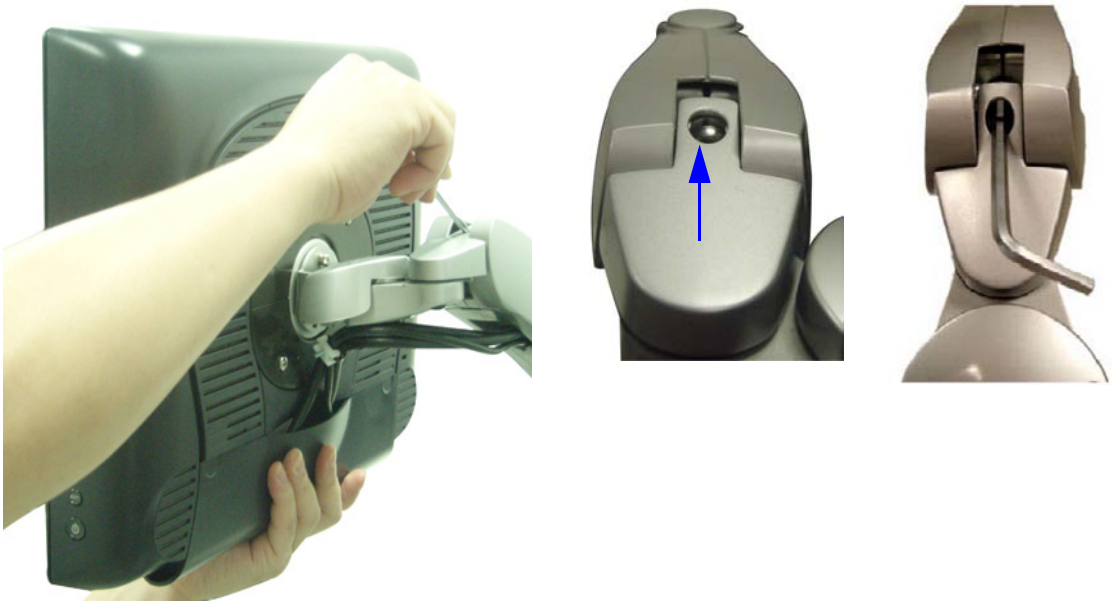


Figure 6-3 Arm Force Adjust Screw

Section 6-3 Adjust the Display Monitor(Software Version R5.2.x, R6.x.x and R7.x.x) (cont'd)

NOTE: When move the Docking Cart, please put the Arm and Touch Panel on appropriate position as the following figure shows to avoid the Arm and Touch Panel sliding.

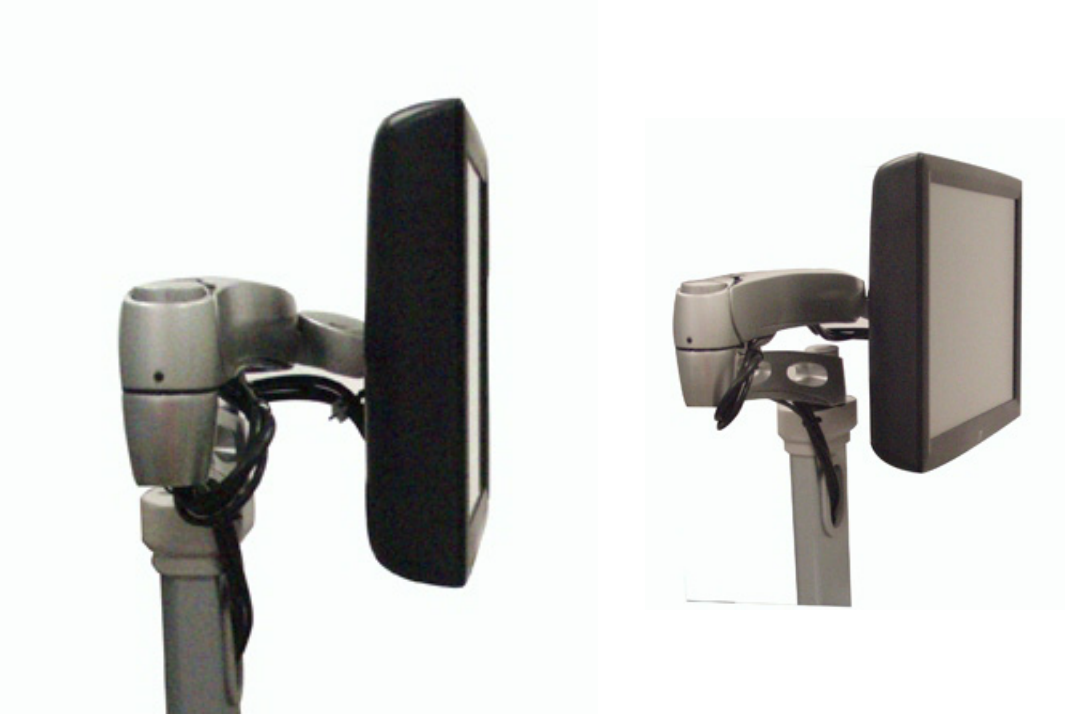


Figure 6-4 Avoid the Arm and Touch Panel sliding

Section 6-4Control and Adjust LCD Function Keys

6-4-1 LCD Function Keys

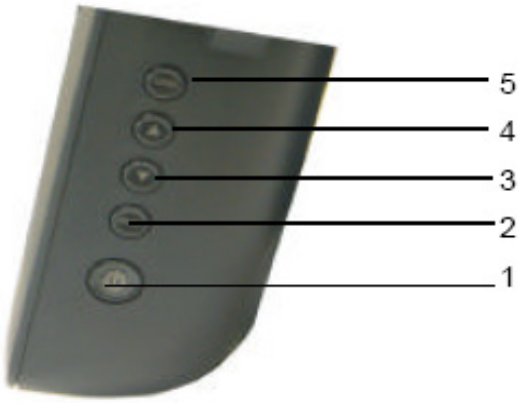


Figure 6-5 LCD Function Key

The Functin Keys are on the side of the LCD:

1.) Power Switch
2.) Select Key (Display the OSD Menus)
3.) Adjusting Key1
4.) Adjusting Key2
5.) Menu

NOTE: More detailed button function and touch panel adjustment, please refer to the CD inside the touch panel package.

6-4-2 Lock/Unlock the Function Keys

6-4-2-1 Lock /Unlock OSD

The OSD functions can be locked and unlock.The monitor is shipped in thelocked/unlocked position.

To Lock the OSD:

Press the Menu bottom and Adjusting Key1 for two seconds simultaneously. A window will appear displaying "OSD Lock".

To unlock the OSD:

Hold the Menu bottom and Adjustming key1 for two seconds .A window will appear displaying "OSD Unlock".

6-4-2-2 Lock/Unlock Power Switch

The Power Switch can be locked and unlocked.

To lock the Power Switch:

Press the Menu buttom and the Adjusting Key2 simultaneously for two seconds .A window will appear displaying "Power lock".

To unlock the Power Switch:

Hold the Menu bottom and Adjusting Key2 simultaneously for two seconds. A window will appear displaying"Power unlock".

Chapter 7 Diagnostics/Troubleshooting

Section 7-1 Overview

7-1-1 Purpose of Chapter 7

This section describes how to setup and run the tools that help Docking Cart operation. Cart and board level diagnostics are run whenever power is applied. Some Service Tools may be run at the application level.

Table 7-1 Contents in Chapter 7

Section	Description	Page Number
7-1	Overview	7-1
7-2	Troubleshooting	7-1
7-3	Gathering Trouble Data	7-2
7-4	Troubleshooting Trees	7-3

Section 7-2 Troubleshooting

There is a troubleshooting tool available that the customer can use as a first step to investigate failure issues. It gives the current status of failure and provides some relative ways to figure out.

Section 7-3
Gathering Trouble Data

7-3-1 Overview

There may be a time when it would be advantageous to capture trouble information for acquisition through remote diagnostics or to be sent back to the manufacturer for analysis. There are different options to acquire this data that would give different results.

7-3-2 Collect Vital System Information

The following information is necessary in order to properly analyze data or images being reported as a malfunction or being returned to the manufacturer:

- Product Name = Docking Cart

Docking Cart S/N Number

-

Section 7-4
Troubleshooting Trees

7-4-1 Cannot charge Console Troubleshooting

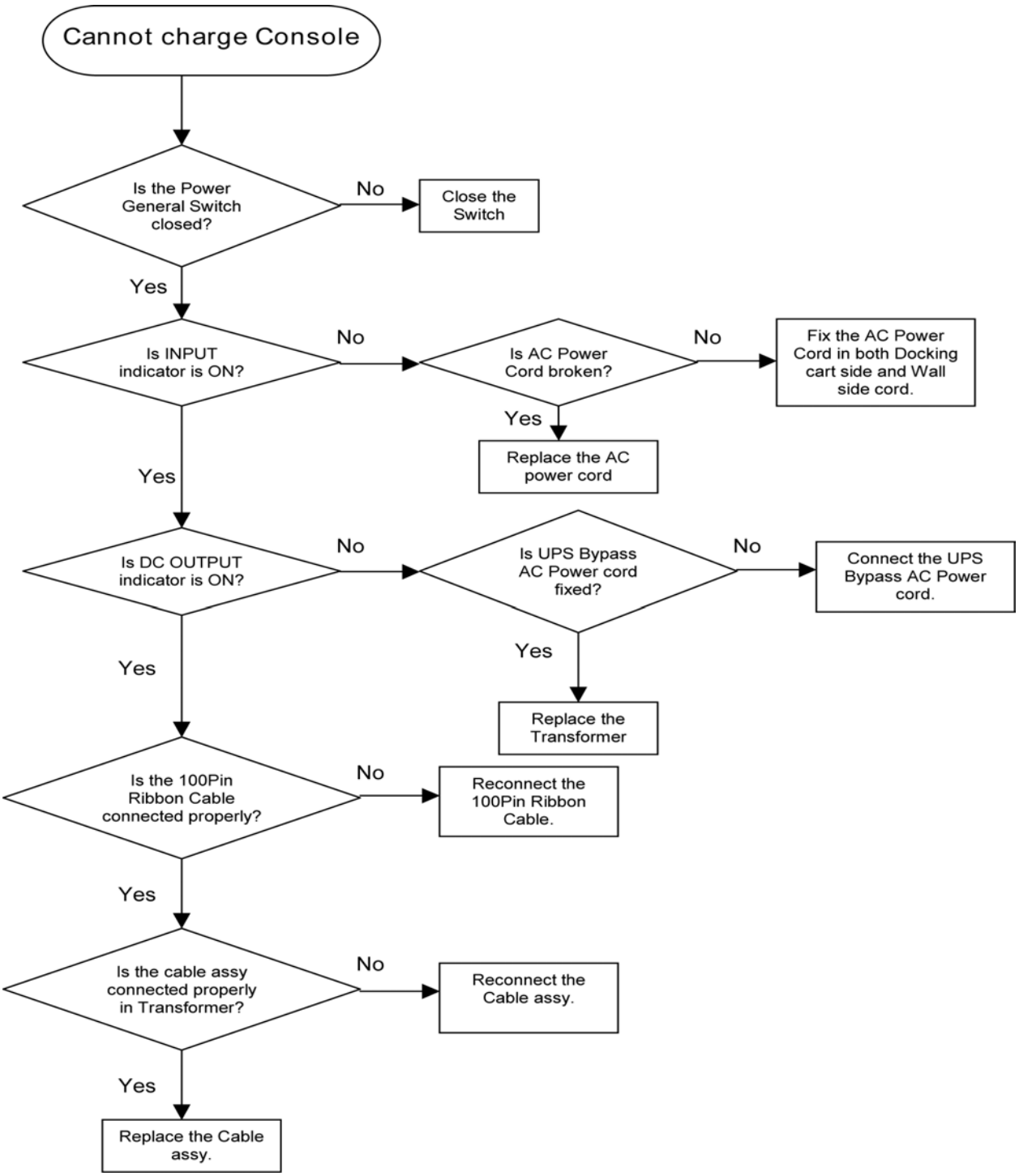


Figure 7-1 Cannot Charge Console Troubleshooting

7-4-2 System Does Not Boot

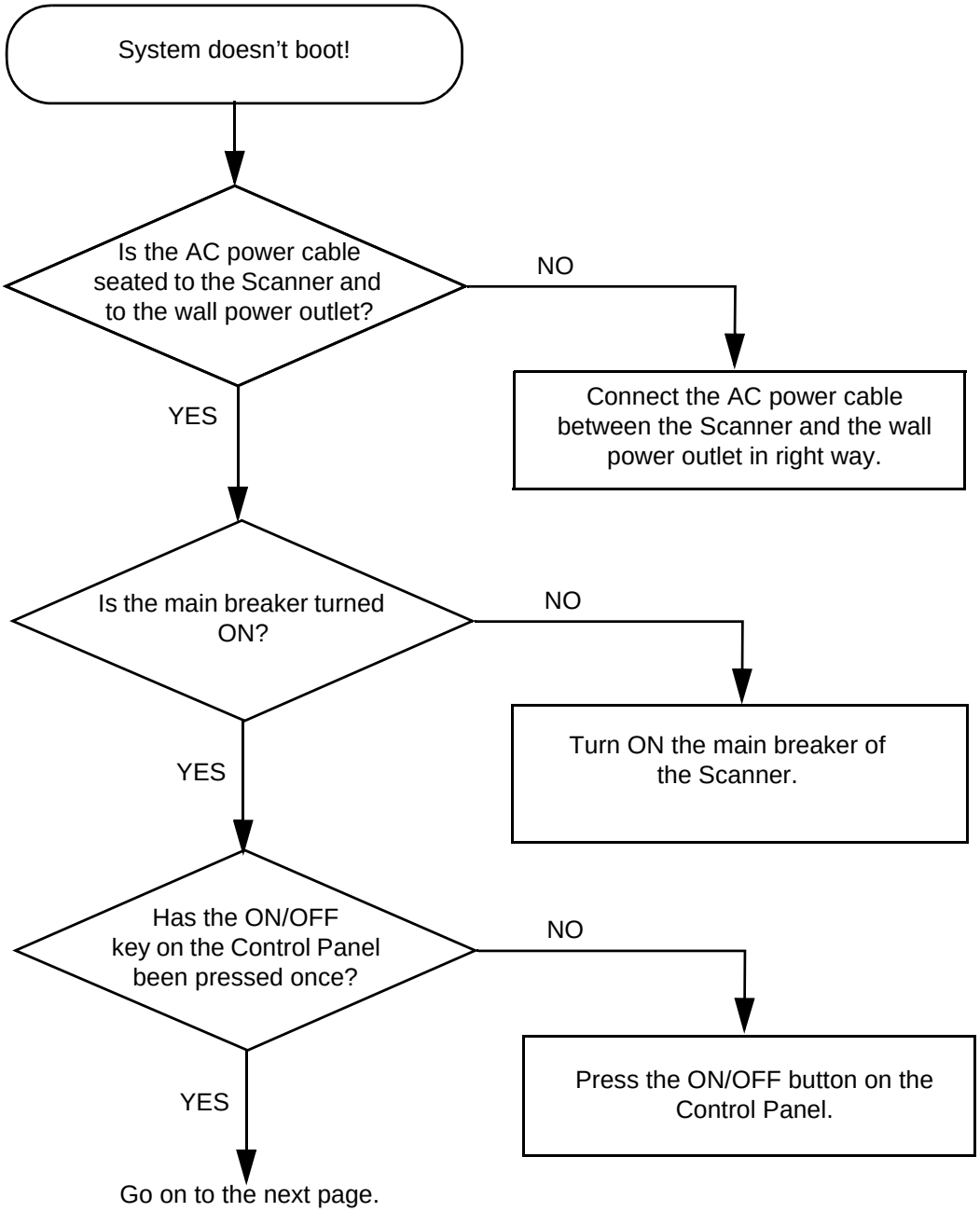

System doesn't boot!
Is the AC power cable seated to the Scanner and to the wall power outlet?
NO
Connect the AC power cable between the Scanner and the wall power outlet in right way.
YES
Is the main breaker turned ON?
NO
Turn ON the main breaker of the Scanner.
YES
Has the ON/OFF key on the Control Panel been pressed once?
NO
Press the ON/OFF button on the Control Panel.
YES
Go on to the next page.

Figure 7-2 System does not Boot

7-4-3 Cannot power on the peripheral Troubleshooting

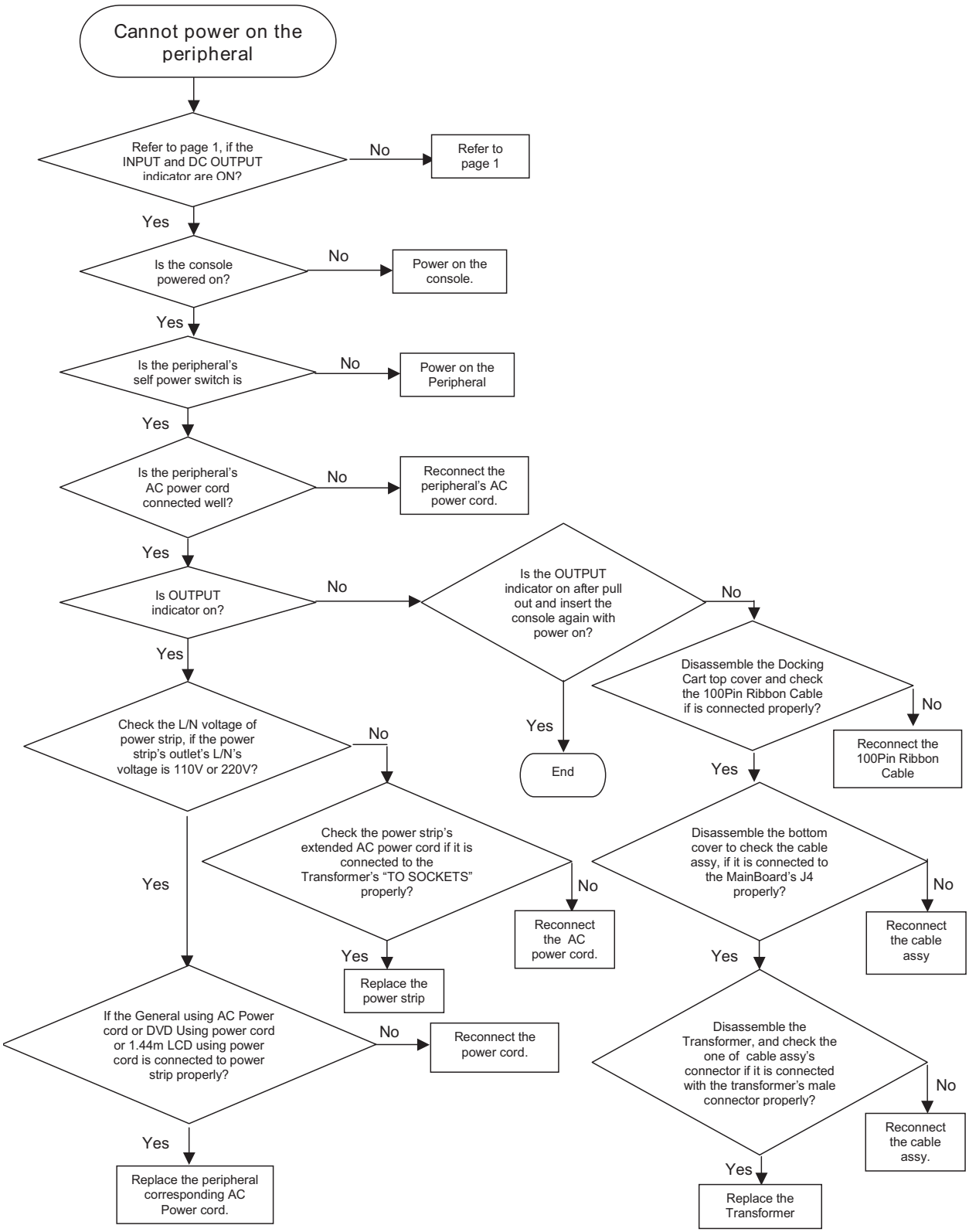

Cannot power on the peripheral
Refer to page 1, if the INPUT and DC OUTPUT indicator are ON?
No
Refer to page 1
Yes
Is the console powered on?
No
Power on the console.
Yes
Is the peripheral's self power switch is
No
Power on the Peripheral
Yes
Is the peripheral's AC power cord connected well?
No
Reconnect the peripheral's AC power cord.
Yes
Is OUTPUT indicator on?
No
Is the OUTPUT indicator on after pull out and insert the console again with power on?
No
Disassemble the Docking Cart top cover and check the 100Pin Ribbon Cable if is connected properly?
No
Reconnect the 100Pin Ribbon Cable
Yes
Yes
End
Yes
Check the L/N voltage of power strip, if the power strip's outlet's L/N's voltage is 110V or 220V?
No
Check the power strip's extended AC power cord if it is connected to the Transformer's "TO SOCKETS" properly?
No
Reconnect the AC power cord.
Yes
Replace the power strip
Yes
Disassemble the bottom cover to check the cable assy, if it is connected to the MainBoard's J4 properly?
No
Reconnect the cable assy
Yes
Yes
If the General using AC Power cord or DVD Using power cord or 1.44m LCD using power cord is connected to power strip properly?
No
Reconnect the power cord.
Yes
Replace the peripheral corresponding AC Power cord.
Disassemble the Transformer, and check the one of cable assy's connector if it is connected with the transformer's male connector properly?
No
Reconnect the cable assy.
Yes
Replace the Transformer

Figure 7-3 Cannot power on the peripheral Troubleshooting

7-4-4 External LCD does not display Troubleshooting

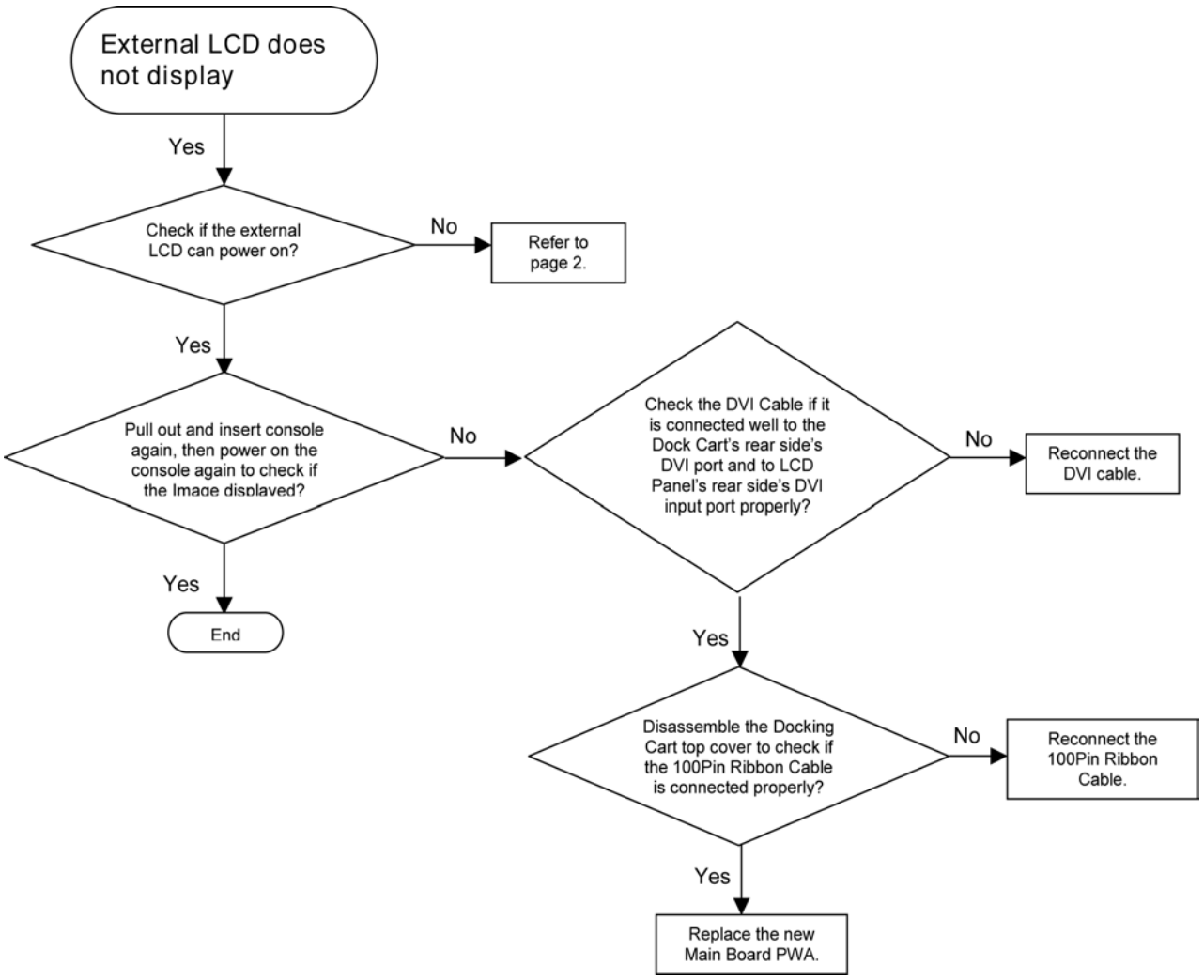

External LCD does not display
Yes
Check if the external LCD can power on?
No
Refer to page 2.
Yes
Pull out and insert console again, then power on the console again to check if the Image displayed?
No
Check the DVI Cable if it is connected well to the Dock Cart's rear side's DVI port and to LCD Panel's rear side's DVI input port properly?
No
Reconnect the DVI cable.
Yes
End
Yes
Disassemble the Docking Cart top cover to check if the 100Pin Ribbon Cable is connected properly?
No
Reconnect the 100Pin Ribbon Cable.
Yes
Replace the new Main Board PWA.

Figure 7-4 External LCD does not display Troubleshooting

7-4-5 External Speaker doesn't work Troubleshooting

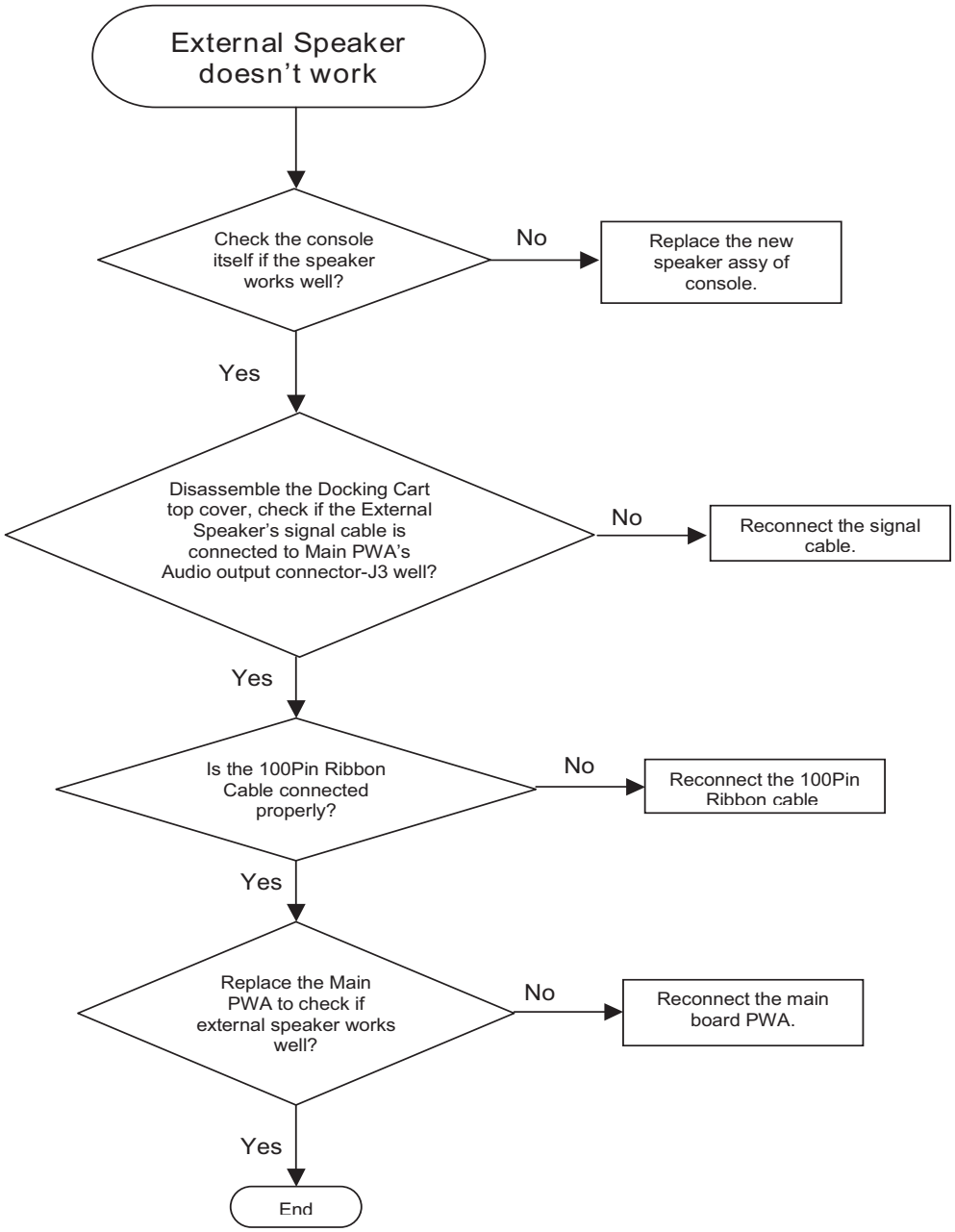

External Speaker doesn't work
Check the console itself if the speaker works well?
No
Replace the new speaker assy of console.
Yes
Disassemble the Docking Cart top cover, check if the External Speaker's signal cable is connected to Main PWA's Audio output connector-J3 well?
No
Reconnect the signal cable.
Yes
Is the 100Pin Ribbon Cable connected properly?
No
Reconnect the 100Pin Ribbon cable
Yes
Replace the Main PWA to check if external speaker works well?
No
Reconnect the main board PWA.
Yes
End

Figure 7-5 External Speaker doesn't work Troubleshooting

7-4-6 USB Peripheral doesn't work Troubleshooting

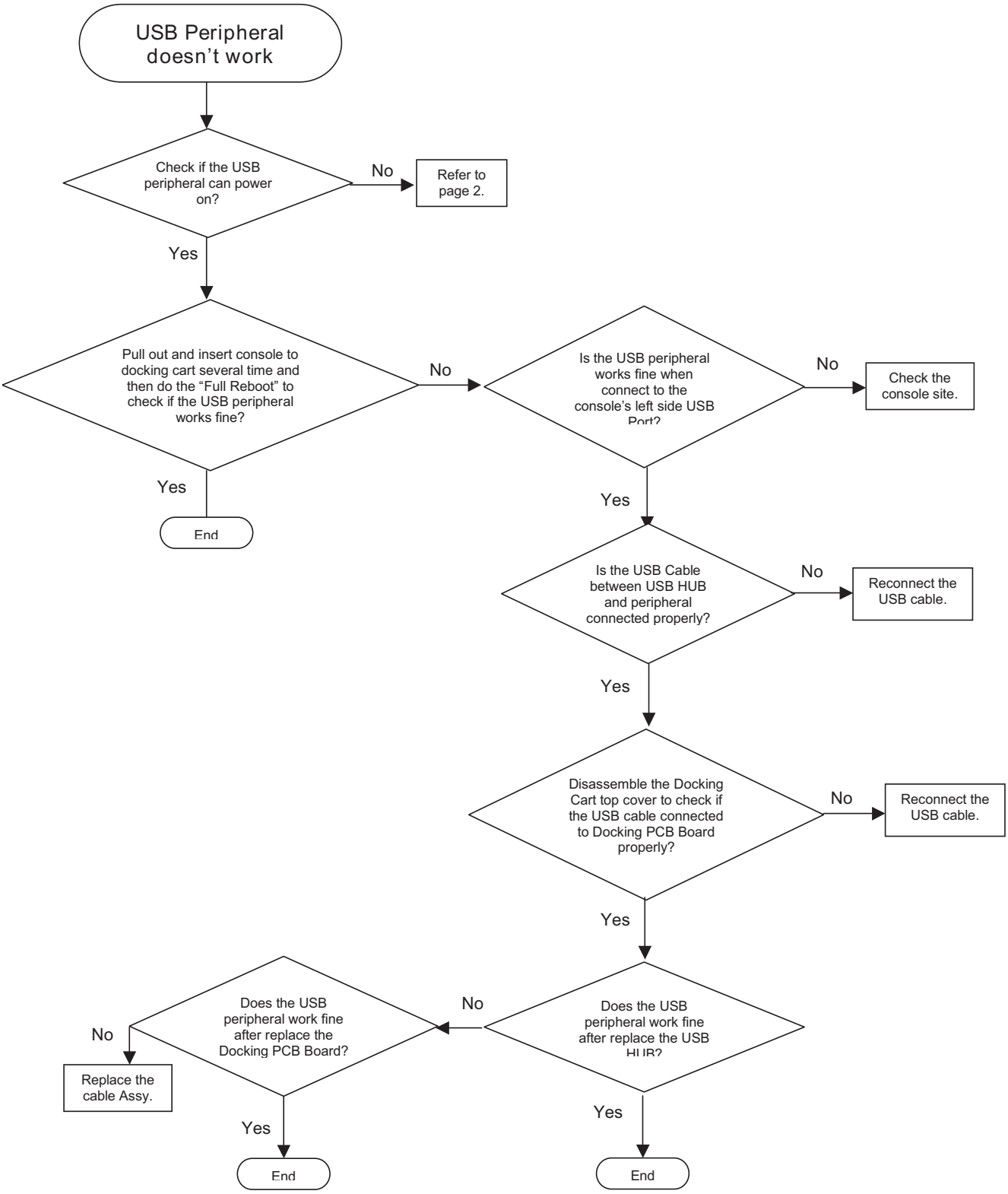

USB Peripheral doesn't work
Check if the USB peripheral can power on?
No
Refer to page 2.
Yes
Pull out and insert console to docking cart several time and then do the "Full Reboot" to check if the USB peripheral works fine?
No
Is the USB peripheral works fine when connect to the console's left side USB Port?
No
Check the console site.
Yes
End
Yes
Is the USB Cable between USB HUB and peripheral connected properly?
No
Reconnect the USB cable.
Yes
Disassemble the Docking Cart top cover to check if the USB cable connected to Docking PCB Board properly?
No
Reconnect the USB cable.
Yes
Does the USB peripheral work fine after replace the USB HUB?
No
Does the USB peripheral work fine after replace the Docking PCB Board?
No
Replace the cable Assy.
Yes
End
Yes
End

Figure 7-6 USB Peripheral doesn't work Troubleshooting

7-4-7 Video Recorder doesn't work in Double Screen mode Troubleshooting

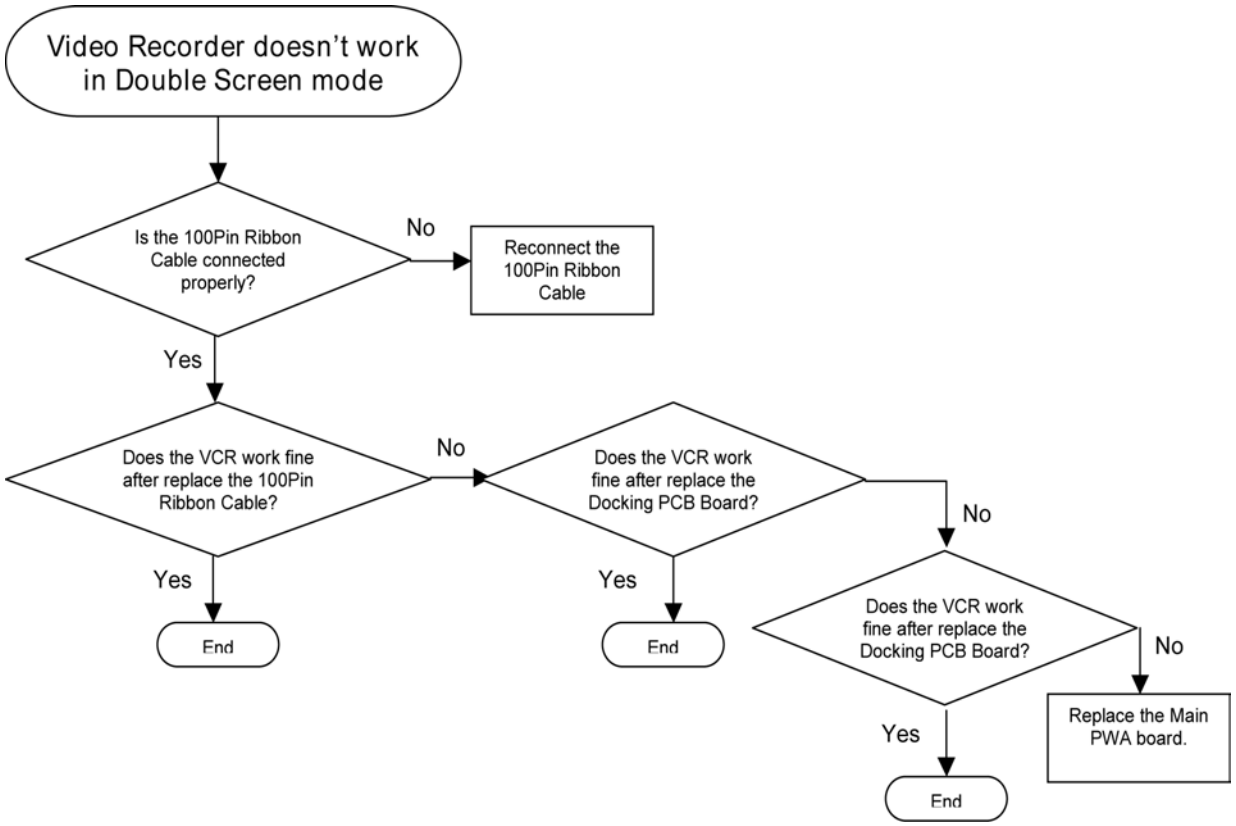


Figure 7-7 Video Recorder doesn't work in Double Screen mode

7-4-8 Abnormal image display by VCR Troubleshooting

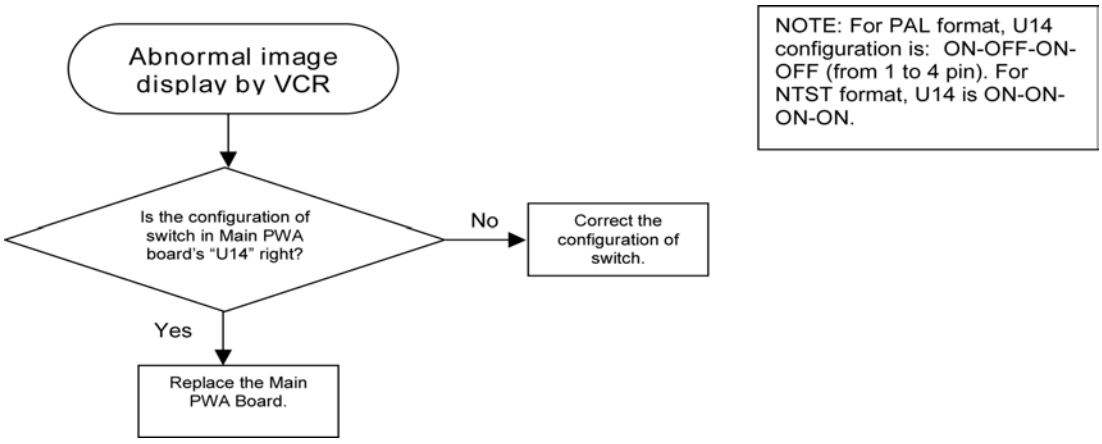

Abnormal image display by VCR
Is the configuration of switch in Main PWA board's "U14" right?
No
Correct the configuration of switch.
Yes
Replace the Main PWA Board.
NOTE: For PAL format, U14 configuration is: ON-OFF-ON-OFF (from 1 to 4 pin). For NTST format, U14 is ON-ON-ON-ON.

Figure 7-8 VCR abnormal image display Troubleshooting

7-4-9 No image display by VCR Troubleshooting

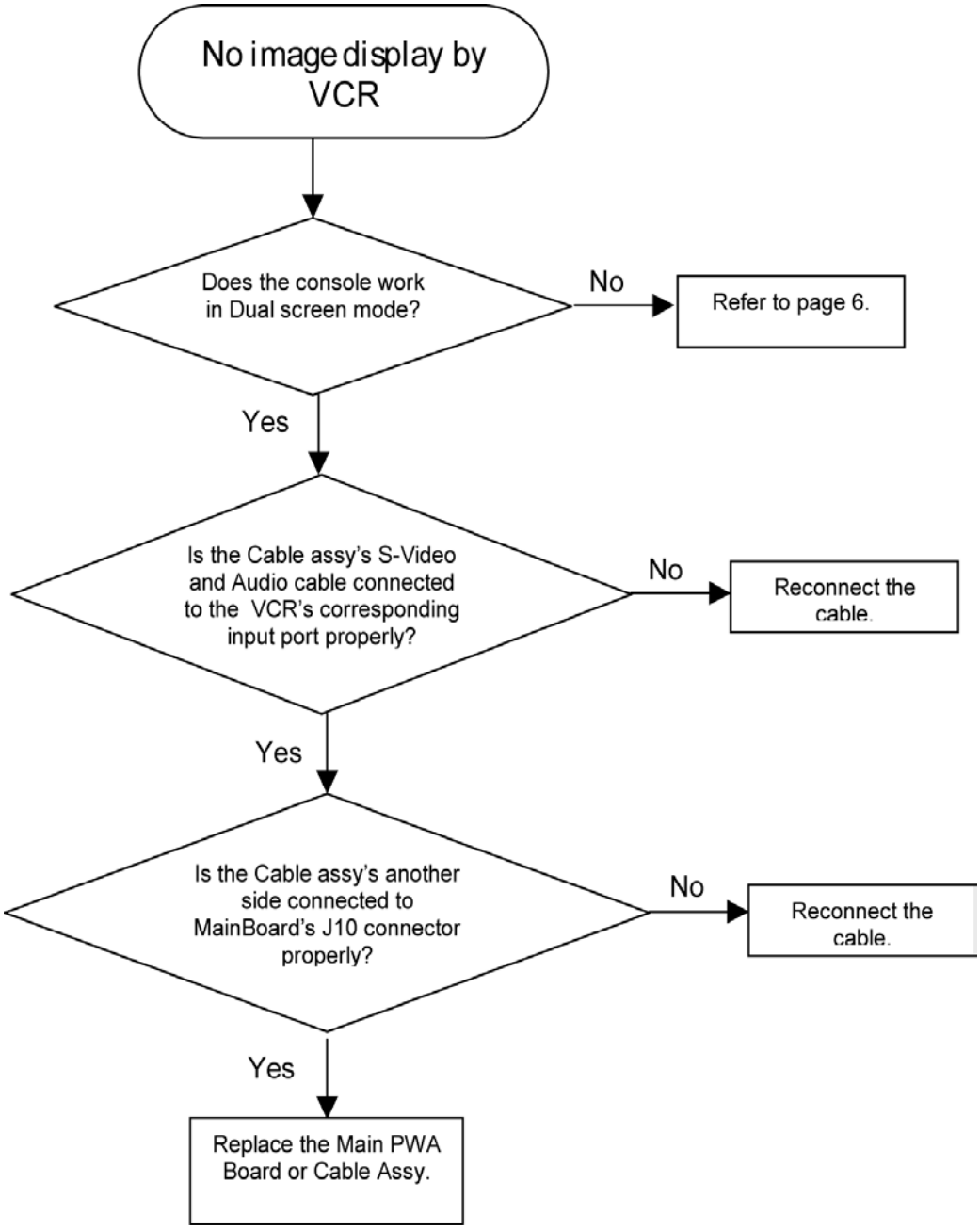

No image display by VCR
Does the console work in Dual screen mode?
No
Refer to page 6.
Yes
Is the Cable assy's S-Video and Audio cable connected to the VCR's corresponding input port properly?
No
Reconnect the cable.
Yes
Is the Cable assy's another side connected to MainBoard's J10 connector properly?
No
Reconnect the cable.
Yes
Replace the Main PWA Board or Cable Assy.

Figure 7-9 No image display by VCR Troubleshooting

7-4-10 Can not recognize Probe Troubleshooting

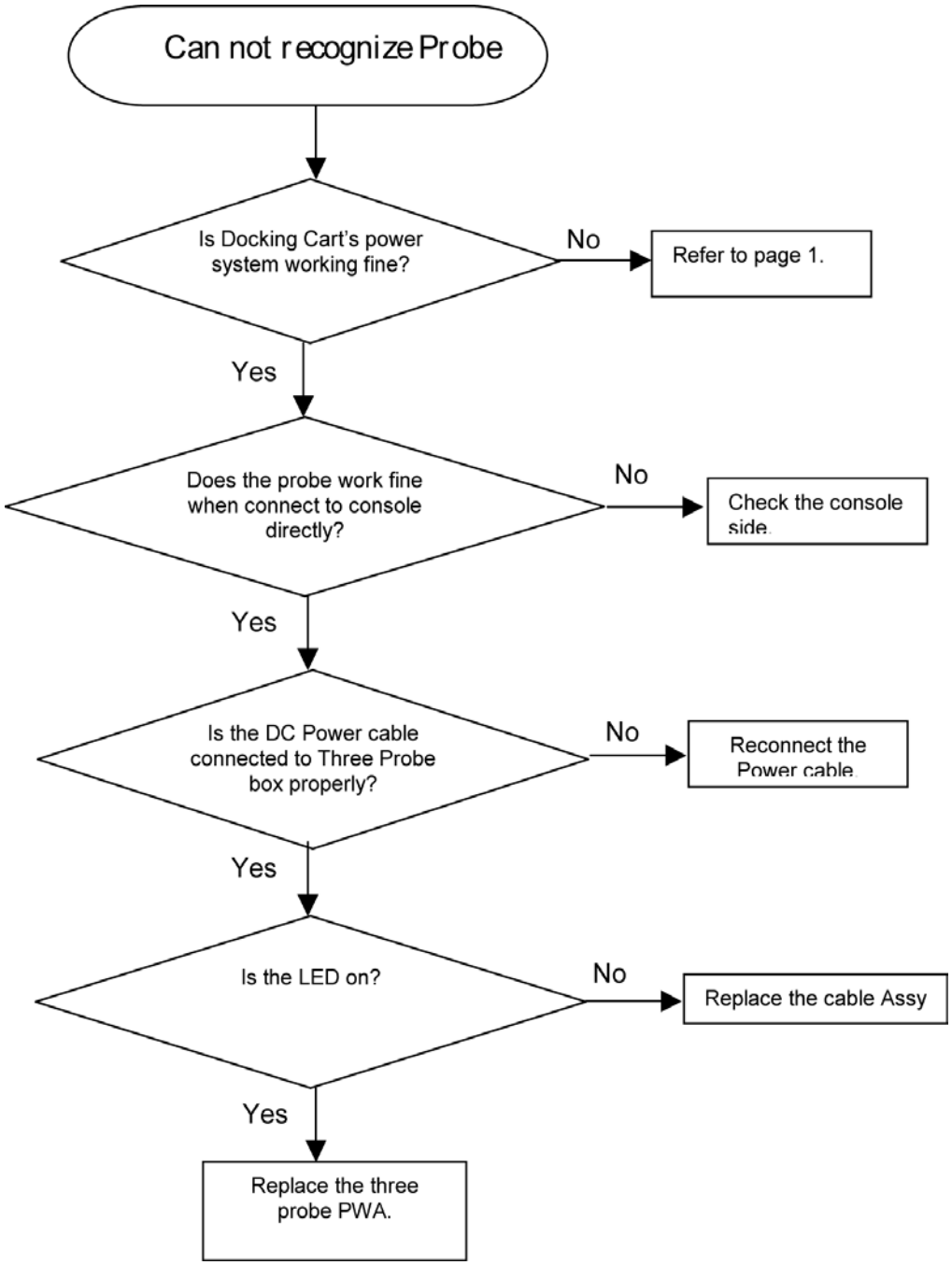


Figure 7-10 Can not recognize Probe Troubleshooting

7-4-11 Noise on image with Three Probe Troubleshooting

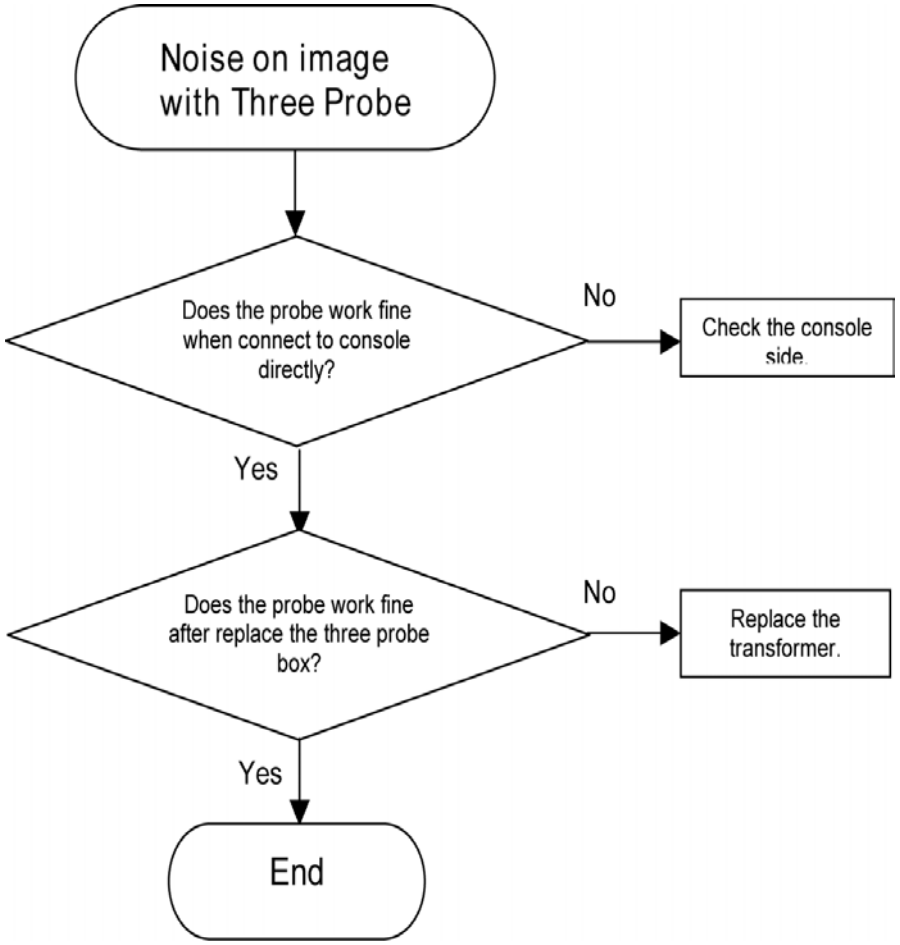


Figure 7-11 Noise on image with Three Probe Troubleshooting

7-4-12 Touch Screen does not display Troubshooting (For Software Version R5.2.x, R6.x.x and R7.x.x)

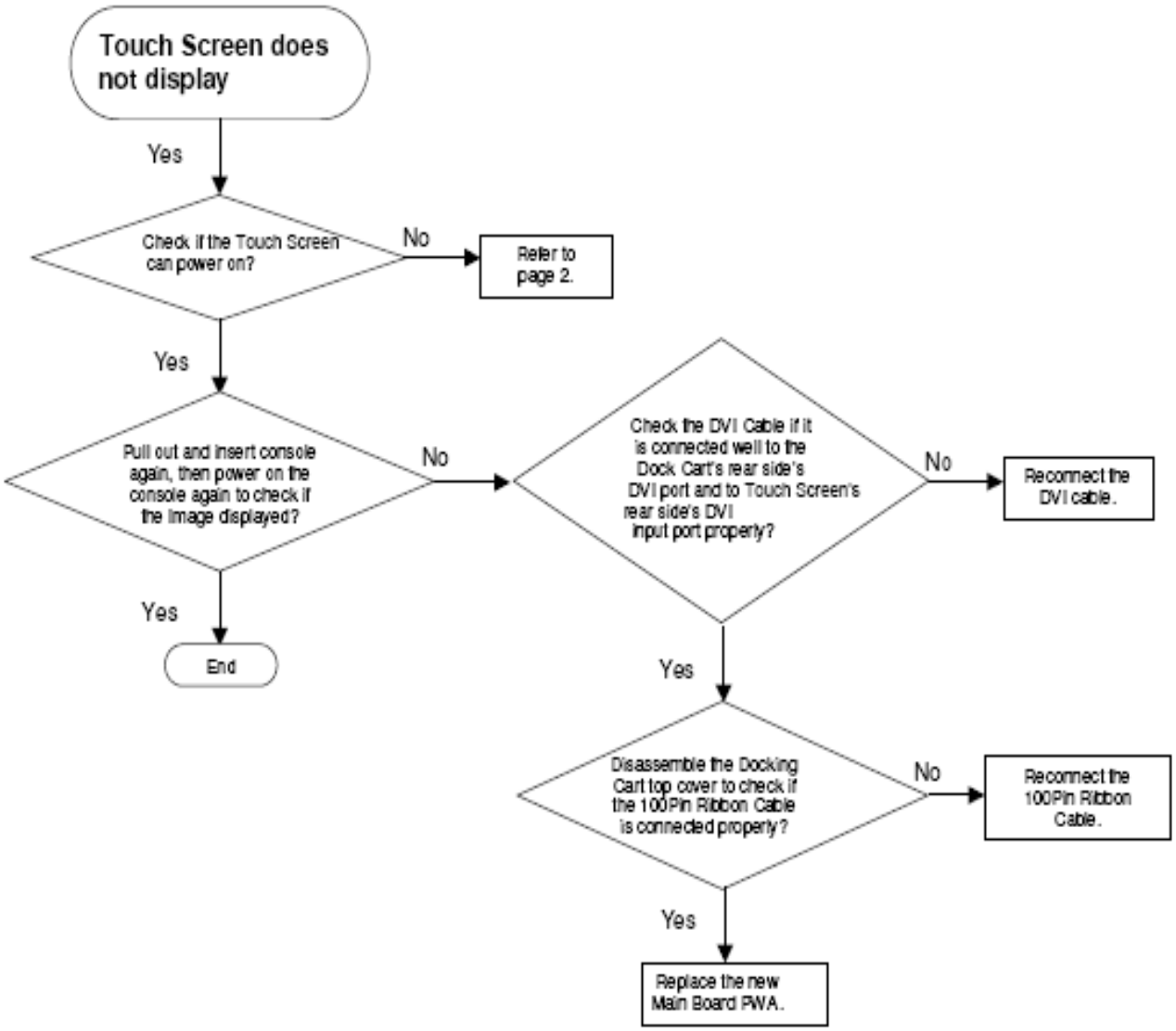

Touch Screen does not display
Yes
Check if the Touch Screen can power on?
No
Refer to page 2.
Yes
Pull out and insert console again, then power on the console again to check if the image displayed?
No
Check the DVI Cable if it is connected well to the Dock Cart's rear side's DVI port and to Touch Screen's rear side's DVI input port properly?
No
Reconnect the DVI cable.
Yes
End
Yes
Disassemble the Docking Cart top cover to check if the 100Pin Ribbon Cable is connected properly?
No
Reconnect the 100Pin Ribbon Cable.
Yes
Replace the new Main Board PWA.

Figure 7-12 Touch Screen does not display Troubshooting

7-4-13 Unable to control on the Touch Screen Troubleshooting (For Software Version R5.2.x, R6.x.x and R7.x.x)

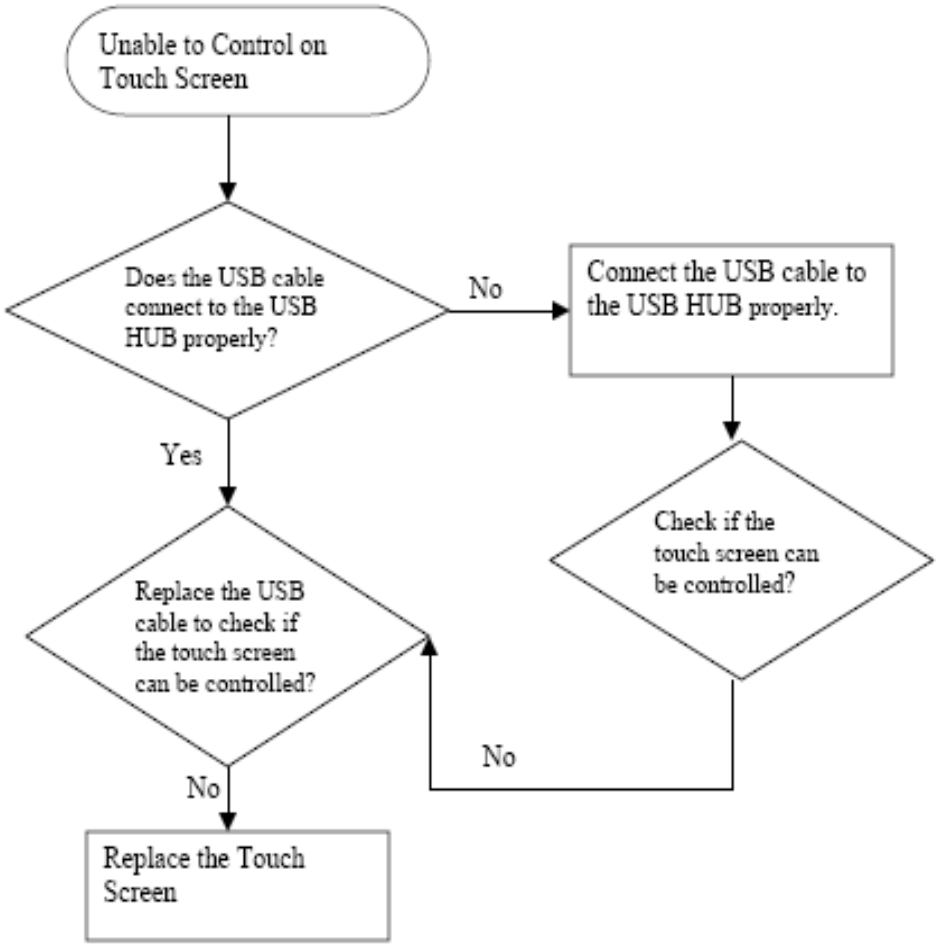

Unable to Control on Touch Screen
Does the USB cable connect to the USB HUB properly?
No
Connect the USB cable to the USB HUB properly.
Yes
Check if the touch screen can be controlled?
Replace the USB cable to check if the touch screen can be controlled?
No
No
Replace the Touch Screen

Figure 7-13 Unable to control on the Touch Screen Troubleshooting

7-4-14 Can not Charge the UPS Troubleshooting (For Software Version R5.2.x, R6.x.x and R7.x.x)

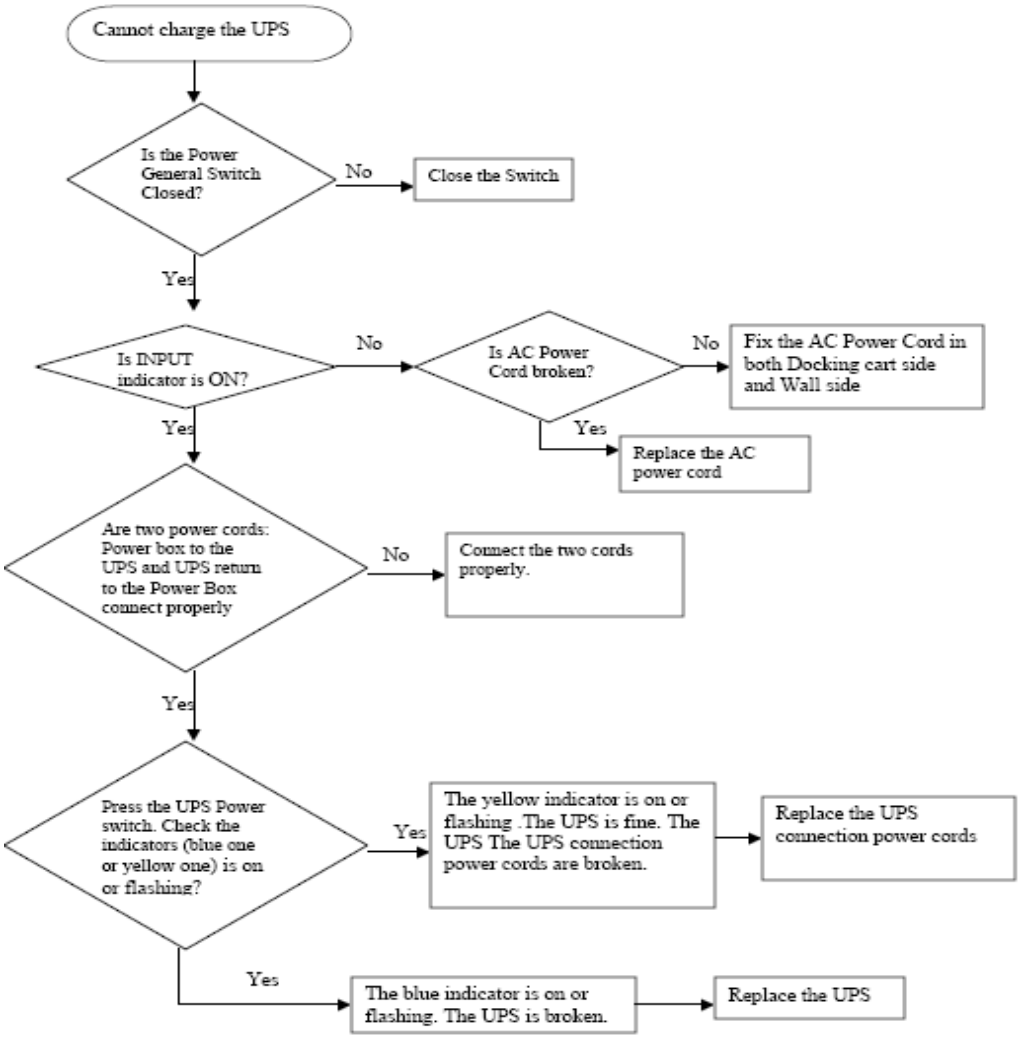

Cannot charge the UPS
Is the Power General Switch Closed?
No
Close the Switch
Yes
Is INPUT indicator is ON?
No
Is AC Power Cord broken?
No
Fix the AC Power Cord in both Docking cart side and Wall side
Yes
Yes
Replace the AC power cord
Are two power cords: Power box to the UPS and UPS return to the Power Box connect properly
No
Connect the two cords properly.
Yes
Press the UPS Power switch. Check the indicators (blue one or yellow one) is on or flashing?
Yes
The yellow indicator is on or flashing .The UPS is fine. The UPS The UPS connection power cords are broken.
Replace the UPS connection power cords
Yes
The blue indicator is on or flashing. The UPS is broken.
Replace the UPS

Figure 7-14 Can not charge the UPS Troubleshooting

7-4-15 UPS has no OUTPUT Troubleshooting (For Software Version R5.2.x, R6.x.x and R7.x.x)

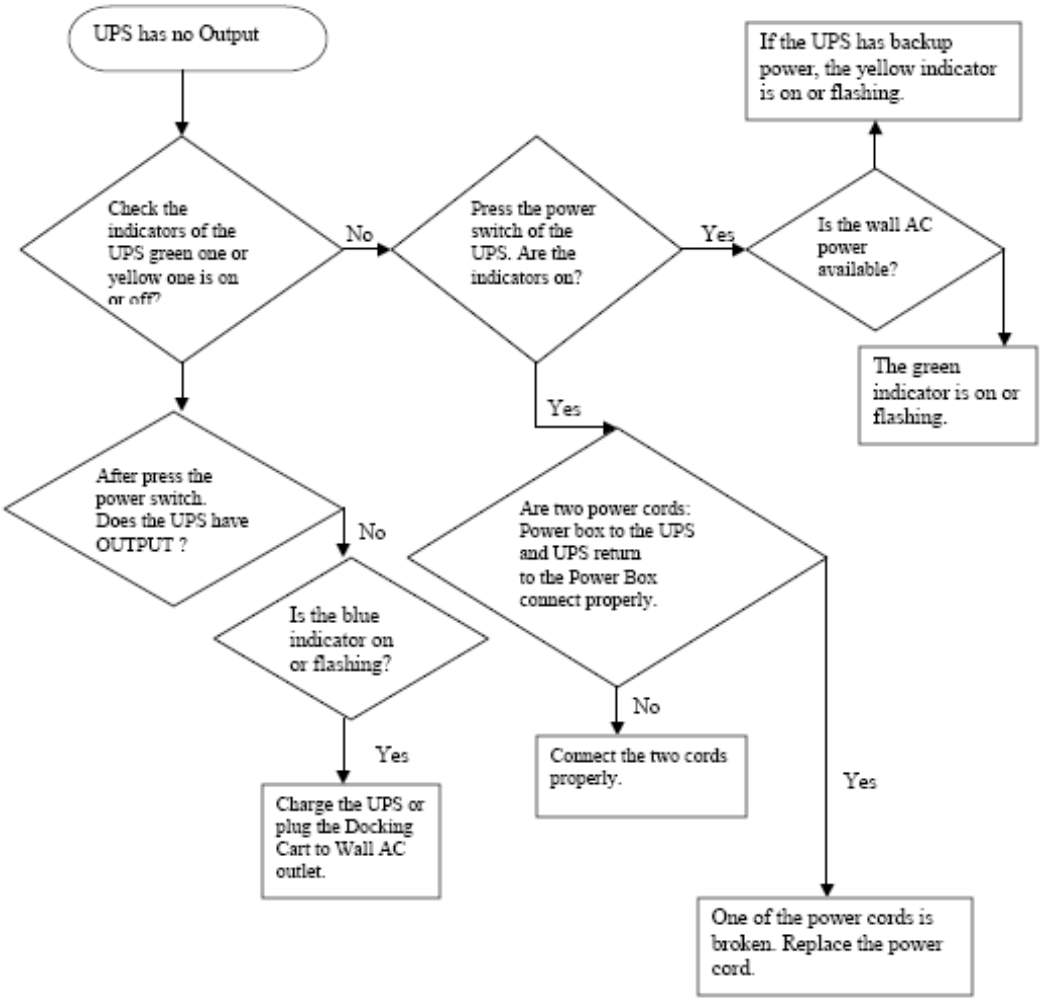

UPS has no Output
Check the indicators of the UPS green one or yellow one is on or off?
No
Press the power switch of the UPS. Are the indicators on?
Yes
If the UPS has backup power, the yellow indicator is on or flashing.
Is the wall AC power available?
The green indicator is on or flashing.
Yes
After press the power switch. Does the UPS have OUTPUT ?
No
Are two power cords: Power box to the UPS and UPS return to the Power Box connect properly.
Is the blue indicator on or flashing?
No
Yes
Connect the two cords properly.
Yes
Charge the UPS or plug the Docking Cart to Wall AC outlet.
One of the power cords is broken. Replace the power cord.

Figure 7-15 UPS has no OUTPUT Troubleshooting

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Chapter 8
Replacement Procedures

Section 8-1
Overview

8-1-1 Purpose of Chapter 8

This chapter describes replacement procedures for the following modules and subsystems.

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Section 8-2DISASSEMBLY/RE-ASSEMBLY

8-2-1 Warning and Caution

WARNING ***DO NOT SERVICE OR DISASSEMBLE PARTS UNDER FRU UNIT LEVEL AT ANY CIRCUMSTANCES.***

CAUTION **Do not wear the ESD wrist strap when you remove a part of power supply unit. Turn OFF power and unplug the power cord before removing a part of power supply unit. However be sure to turn off power and wear the strap before you remove a circuit boards.**

WARNING ***ONLY QUALIFIED SERVICE PERSONNEL SHOULD REMOVE ANY COVERS OR PANELS. ELECTRICAL HAZARDS EXISTS AT SEVERAL POINTS INSIDE. BECOME THOROUGHLY FAMILIAR WITH ALL HAZARDOUS VOLTAGES AND HIGH CURRENT LEVELS TO AVOID ACCIDENTAL CONTACT***

8-2-2 Standard tools list for Docking Cart

Table 8-2 Standard tools list

No	Part Name	Part No.	QTY	Description	Screwdriver Description
1	Screw	5176890	6	DIN965A M4X8 Phillips #2	Phillips #2
2	Screw	5237570	7	Screw with washers M5X30	Hex 3mm
3	Screw	5237571	9	Screw with washers M6X15	Hex 4mm
4	Screw	5237572	8	Screw with washers M6X26	Hex 4mm
5	Screw	5178403	1	Screw with washer M8X28	Hex 6mm
6	Screw	5180626	16	Screw with washers SJ2836-87 M4X14(l)	Phillips #2
7	Screw	5191051	14	GB9074.4-88 M3X10	Phillips #1
8	Screw	5191335	12	GB9074.4-88 M3X6	Phillips #1
9	Screw	5192520	18	GB9074.4-88 M3X15	Phillips #1
10	Screw	5191190	34	Screw with washers GB 9074.10-88 M4X8	Phillips #2
11	Screw	5237573	2	Screw with washers M5X12	Hex 3mm
12	Screw	5138465	12	FH M2.5X5(NL)	Phillips #1
13	Screw	2327785	3	TY JMF M2X4 (Nylok)	Phillips #0
14	Screw	5237569	22	Screw with washers M5X16	Hex 3mm
15	Screw	5272345	2	GB 834-88 M5X16	
16	Screw	5267341	12	Screw M4X18 (NL)	Phillips #2
17	Screw	5237574	4	Screw with washers GB 9074-88 M4X25	Phillips #2
18	Screw	5144997	8	FH M3X6 (NL)	Phillips #1
19	Screw	2159633	1	Screw PAN 4MM 8MM	Phillips #2
20	Screw	5324979	4	M6X30	Hex 4mm

8-2-3 Secondary LCD

8-2-3-1 Tools

- Common pillips screwdrivers
- Common Hex screwdrivers

8-2-3-2 Needed Manpower

- 1 people,5 minutes+travel

8-2-3-3 Preparation

- Shut Down the system and disconnect the AC Docking Station power.

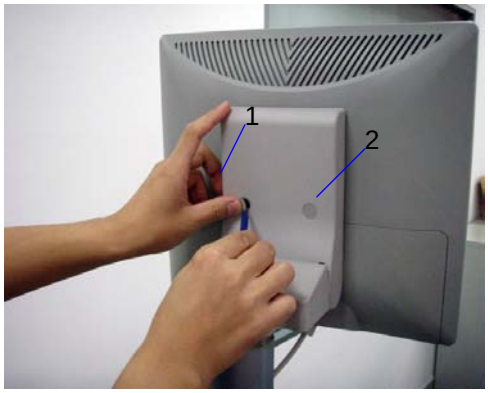
8-2-3-4 Removal procedure

1.) Remove 2 screw caps, refer to Figure 8-1 on page 6 .
2.) Unscrew 2 screws [M4X14] at the back of the LCD monitor, refer to Figure 8-1 on page 6 .
3.) Remove the hinge cover at the back side, refer to Figure 8-1 on page 6 .
4.) Unscrew 2 screws [M4X14], refer to Figure 8-1 on page 6 .
5.) Remove the rear cover of the LCD, refer to Figure 8-1 on page 6 .
6.) Remove the LCD from the hinge.
7.) Unscrew 2 screws [M4X8] and one screws [M4X12] to remove the hinge bracket, refer to Figure 8-2 on page 7 .
8.) Loose the knob of DVI cable and pull out it from the interface, unplug the power cable and remove the LCD monitor from the LCD arm, refer to Figure 8-2 on page 7 .

NOTE: Always hold the LCD when removing in order to prevent it from falling down.

NOTE: Lift the Docking Cart at the highest position before disassembling the Secondary LCD.

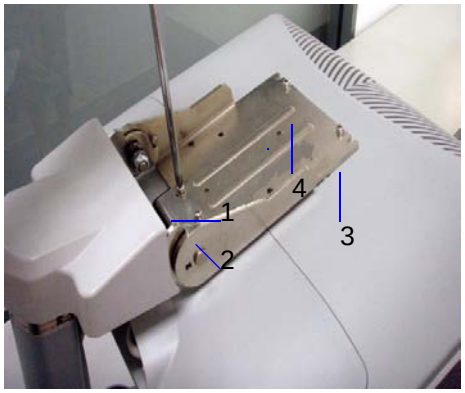
8-2-3 Secondary LCD (cont'd)



1)

2)

3)

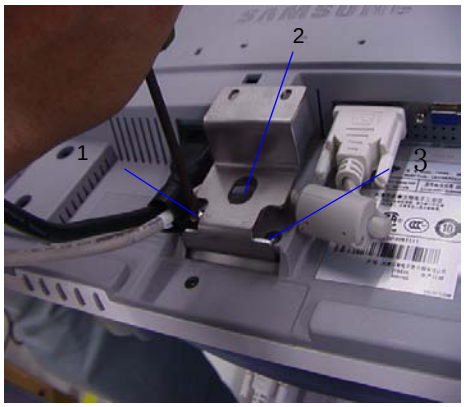


4)

5)

Figure 8-1 The Secondary LCD Disassembly

8-2-3 Secondary LCD (cont'd)



7)

8)

Figure 8-2 The Secondary LCD Disassembly

8-2-3-5 Mounting procedure

Install the new parts in the reverse order of removal.

8-2-4 Arm support Assy

8-2-4-1 Tools

- Common Hex screwdrivers

8-2-4-2 Needed Manpower

- 1 person,1 minutes+travel

8-2-4-3 Preparation

- Shut down the system and switch off the main breaker.

8-2-4-4 Removal procedure

1.) Unscrew 4 screws [M6X30] at the bottom of the arm support, refer to the Figure 8-3 on page 9 .
2.) Pull it from the track of the monitor support arm, refer to the Figure 8-3 on page 9 .
3.) Arm support assy removed, refer to Figure 8-3 on page 9 .

NOTE: Hold arm support assy when unscrewing the last screw to prevent it from falling down.

8-2-4 Arm support Assy (cont'd)

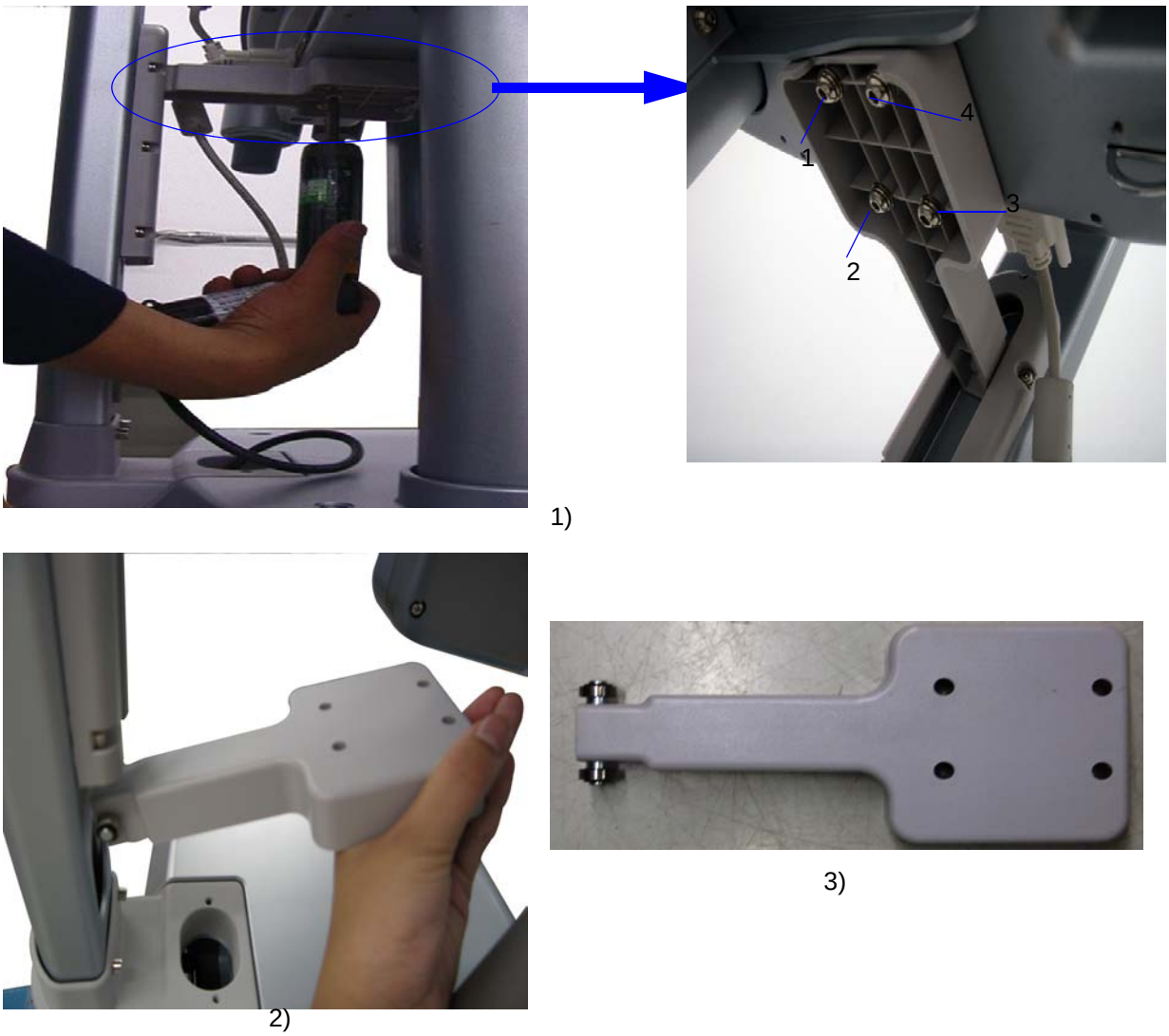


Figure 8-3 Arm Support Assy Disassembly

8-2-4-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-5 Monitor arm Assy

8-2-5-1 Tools

- Common Hex screwdrivers

8-2-5-2 Needed Manpower

- 1 person,9 minutes+travel

8-2-5-3 Preparation

- Shut down the system and switch off the main breaker.

8-2-5-4 Removal procedure

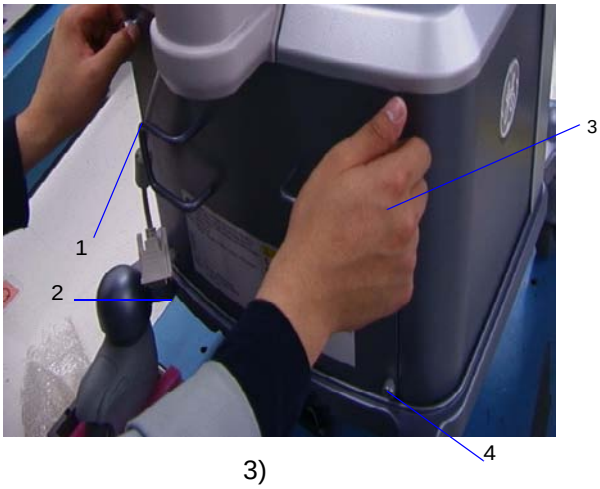
NOTE: Lift the Docking Cart at the highest position before disassembling the Monitor Arm.

1.) Remove the Secondary LCD of docking cart, refer to section 8-2-3 on page 5.
2.) Disconnect the DVI cable from the connector, refer to Figure 8-4 on page 11 .
3.) Loose 4 screws at the rear panel of the system, refer to Figure 8-4 on page 11 .
4.) Remove the back panel by holding the handles, refer to Figure 8-4 on page 11 .
5.) Disconnect the LCD power cable, refer to Figure 8-5 on page 12 .
6.) Unscrew 3 screws [M6X15] at the bottom of the monitor arm, refer to Figure 8-5 on page 12 .
7.) Remove monitor arm assy from the system, refer to Figure 8-5 on page 12 .

NOTE: Use both hands to hold the monitor arm to prevent it from being damaged.

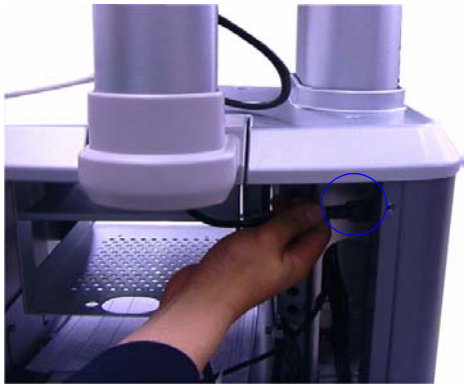
8-2-5 Monitor arm Assy (cont'd)

2)

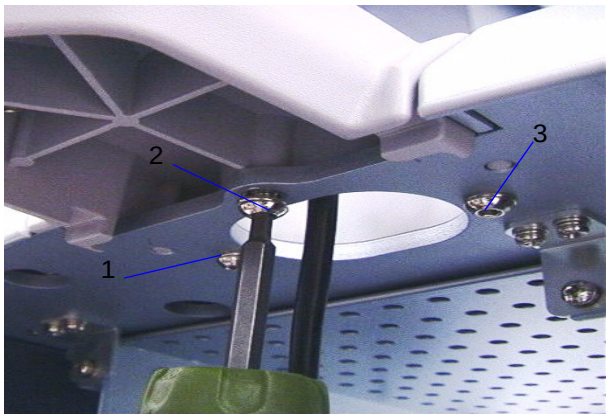


3)

4)



5)



6)

7)

Figure 8-4 Monitor Arm Assy Disassembly

8-2-5-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-6 Monitor Support Space Cap

8-2-6-1 Tools

- Common Hex screwdrivers

8-2-6-2 Needed Manpower

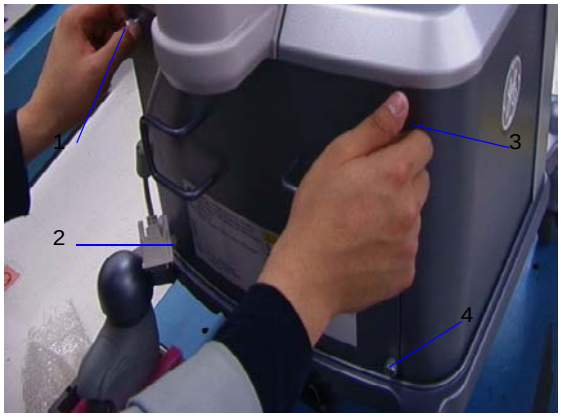
- 1 person,2 minutes+travel

8-2-6-3 Preparation

- Shut down the system and switch off the main breaker.

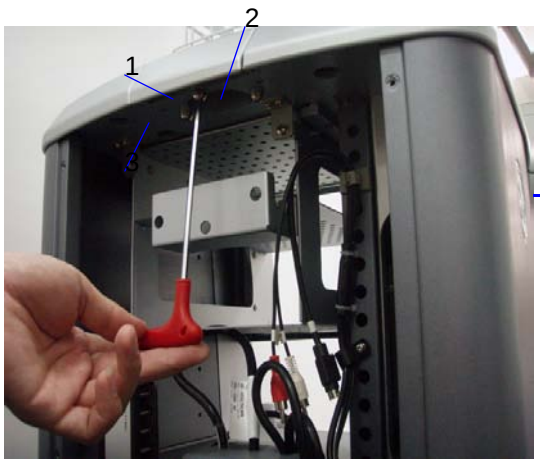
8-2-6-4 Removal procedure

1.) Loose 4 screws at the rear panel by hand, refer to Figure 8-5 on page 12 .
2.) Remove the rear panel, refer toFigure 8-5 on page 12 .
3.) Unscrew 3 screws [M6X15] to remove the monitor support space cap.



1)

2



3)

Figure 8-5 Monitor Support Space Cap Disassembly

8-2-6-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-7 15"Touch Panel and Articulatory Arm (For Software version R5.2.x, R6.x.x and R7.x.x)

8-2-7-1 Tools

- Common pillips screwdrivers
- Common Hex screwdrivers

8-2-7-2 Needed Manpower

- 1 people,5 minutes+travel

8-2-7-3 Preparation

- Shut Down the system and disconnect the AC Docking Station power.

8-2-7-4 Type of Articulatroy Arm

There are two types of Articulatory Arm.Please refer to the following information.

- The Articulatory Arm is composed of Flexible Arm only.
- The Articulatory Arm is composed of Flexible Arm and Secondary Arm.

8-2-7-5 Removal procedure

Removal Procedure for Touch Panel and Articulatory Arm (Flexible Arm only)

1.) Remove the Cable Cover, refer to Picture 1) of the Figure 8-6 on page 15 .

2.) Release the Cable Clips and the Cable tie, and then disconnect the Power Cable, DVI Cable and USB Cable, refer to Picture 2) of the Figure 8-6 on page 15 .

NOTE: Please pull out the cables one by one .

3.) Loose one screw [M5X15] on Articulatory Arm , refer to Picture 3) of the Figure 8-6 on page 15 .

4.) Lift the Articulatory Arm by hands and remove it from Vertical Arm, refer to Picture 4) of Figure 8-6 on page 15 .

NOTE: When lift the Articulatory Arm,do not touch the front-end of the Articulatory Arm in order to aviod injuring hands or fingers, refer to picture 4 of the Figure 8-6 on page 15

5.) Place the Touch Panel Screen face downward on the workbench and hold the Articulatory Arm when unscrew four screws [M4X8] on rear decorative covers, refer to Picture 5) of the Figure 8-6 on page 15 .

6.) Remove two rear decorative covers, refer to Picture 6) of the Figure 8-6 on page 15 .

7.) Remove the Articulatory Arm, refer to Picture 7) of the Figure 8-6 on page 15 .

NOTE: When Unscrew the screws on the rear decorative covers,please hold the Articulatory Arm ,refer to Picture 5) of the Figure 8-6 on page 15 .

8-2-7 15"Touch Panel and Articulatory Arm (For Software version R5.2.x, R6.x.x and R7.x.x) (cont'd)

1)

2)

3)

4)

5)

6)

8-2-7 15"Touch Panel and Articulatory Arm (For Software version R5.2.x, R6.x.x and R7.x.x) (cont'd)

7)

Figure 8-6 Touch Panel and Arm Disassembly (Flexible Arm only)

Removal Procedure for Articulatory Arm (Flexible Arm and Secondary Arm)

1.) Remove the Cable Cover, refer to Picture 1) of the Figure 8-7 on page 17 .
2.) Remove the cable Clips and 6 Cable Ties, refer to Picture 2) of the Figure 8-7 on page 17
3.) Disconnect the Power Cable, DVI Cable and USB Cable, refer to Picture 3) of the Figure 8-7 on page 17 .

NOTE: Please pull out the cables one by one .

4.) Loose one screw [M5X8] on Articulatory Arm, refer to Picture 4) of the Figure 8-7 on page 17 .
5.) Lift the Articulatory Arm by hands and remove it from Vertical Arm, refer to Picture 5) of the Figure 8-7 on page 17 .

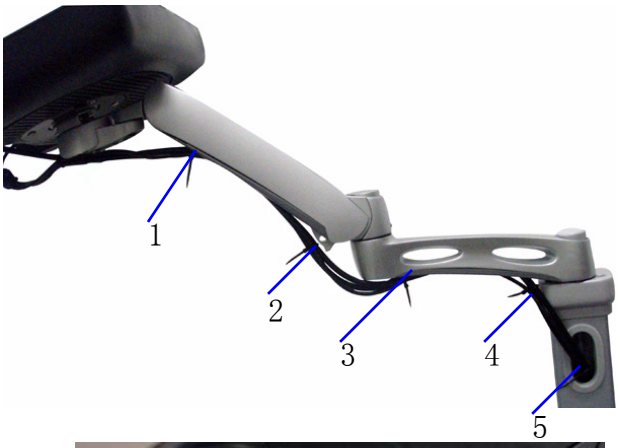
NOTE: When lift the Articulatory Arm,do not touch the front-end of the Articulatory Arm in order to aviod injuring hands or fingers, refer to picute 5 of the Figure 8-7 on page 17

6.) Place the Touch Panel Screen face downward on the workbench and hold the Articulatory Arm when unscrew four screws [M4X8] on rear decorative covers, refer to Picture 5) of the Figure 8-7 on page 17 .
7.) Rmove two rear decorative covers, refer to Picture 8) of the Figure 8-7 on page 17 .
8.) Remove the Articulatory Arm, refer to Picture 9) of the Figure 8-7 on page 17 .

NOTE: When Unscrew the screws on the rear decorative covers,please hold the Articulatory Arm .

8-2-7 15"Touch Panel and Articulatory Arm (For Software version R5.2.x, R6.x.x and R7.x.x) (cont'd)

1)



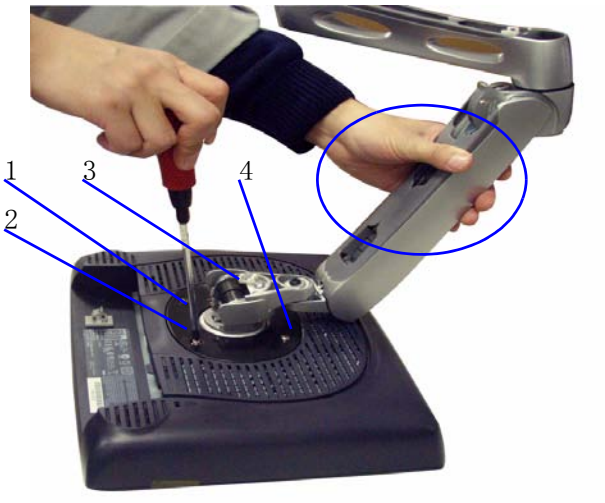
2)

3)

4)

5)

8-2-7 15"Touch Panel and Articulatory Arm (For Software version R5.2.x, R6.x.x and R7.x.x) (cont'd)



6)

7)

8)

Figure 8-7 Touch Panel and Arm Disassembly (Flexible Arm and Secondary Arm)

8-2-8 Docking Station Top Cover Assy

8-2-8-1 Tools

- Common Pillips screwdrivers

8-2-8-2 Needed Manpower

- 1 person,2 minutes+travel

8-2-8-3 Preparation

- Shut down the system and switch off the main breaker.

8-2-8-4 Removal procedure

1.) Unscrew 12 screws [M4X18] at the bottom of the top cover, refer to Figure 8-8 on page 19 .

2.) Unfold the top cover, refer to Figure 8-8 on page 19 .

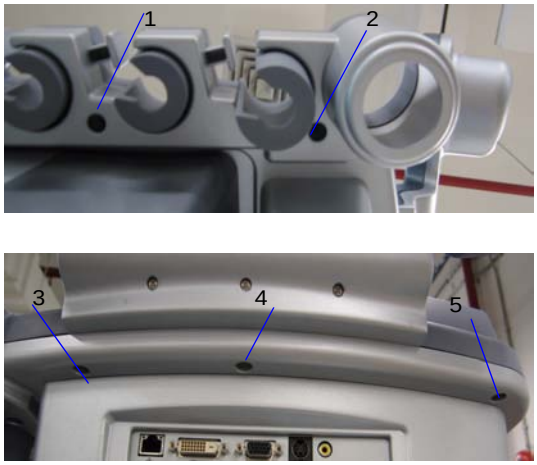
NOTE: Lift the top cover slowly in order to avoid damaging the cable. Disconnect the USB connector before removing the top cover assy.

NOTE: When USB connector is connected to the top cover assy, do not shake the top cover assy horizontally.

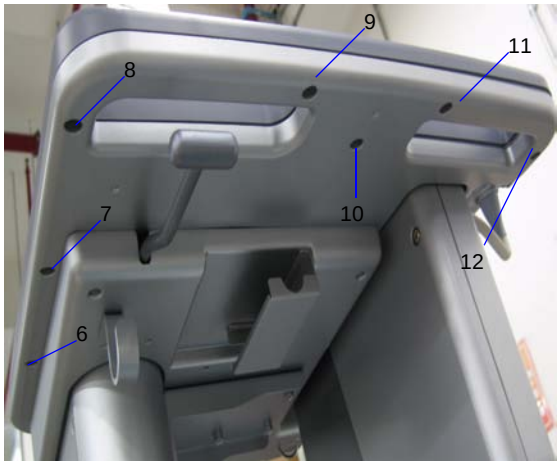
3.) Disconnect the docking ribbon cable and USB connector, refer to Figure 8-8 on page 19 .

4.) Remove the top cover assy, refer to Figure 8-8 on page 19 .

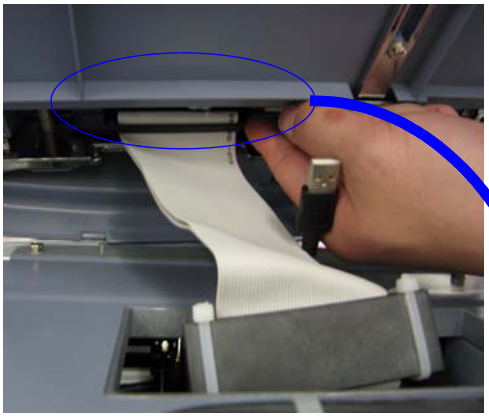
8-2-8 Docking Station Top Cover Assy (cont'd)



1)



2)



3)

4)

Figure 8-8 Top Cover Assy Disassembly

8-2-8-5 Mounting Procedure

Install the new parts in the reverse order of removal.

NOTE: Remember to lock the lockers on both sides of ribbon cable while installing.

NOTE: Do not bend UBS cable while installing.

8-2-9 Docking Port PCB Assy

8-2-9-1 Tools

- Common Pillips screwdrivers

8-2-9-2 Needed Manpower

- 1 person, 3 minutes+travel
-

8-2-9-3 Preparation

- Shut down the system and switch off the main breaker.

8-2-9-4 Removal procedure

1.) Remove top cover assy, refer to section 8-2-8 on page 18.

2.) Unscrew 4 screws [M3X6,M3X10] of the touch button bracket. Screws 1,3,4 [M3X6], screw 2 [M3X10], refer to Figure 8-9 on page 21 .

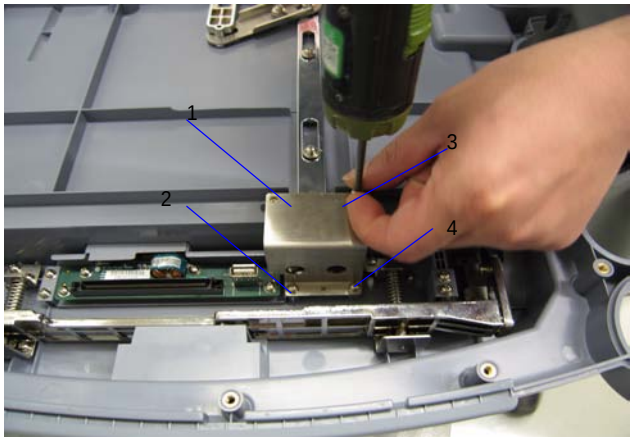
3.) Remove the touch button bracket, refer to Figure 8-9 on page 21 .

4.) Unscrew 3 screws [M3X10] of port PCB, refer to Figure 8-9 on page 21 .

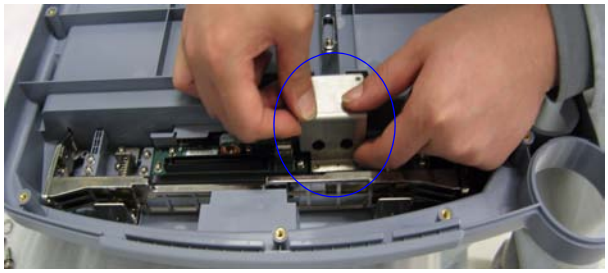
5.) Remove the port PCB from the top cover assy, refer to Figure 8-9 on page 21 .

NOTE: Do not touch the PCB board with integrated circuits prior to taking the necessary Electrostatic Discharge Prevention.

8-2-9 Docking Port PCB Assy (cont'd)



2)



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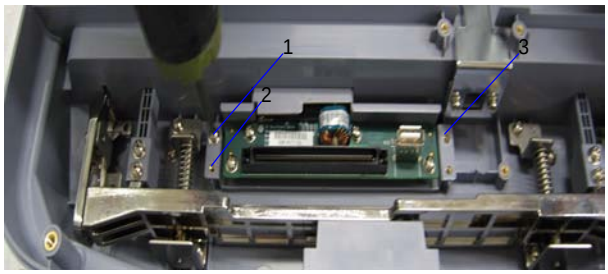

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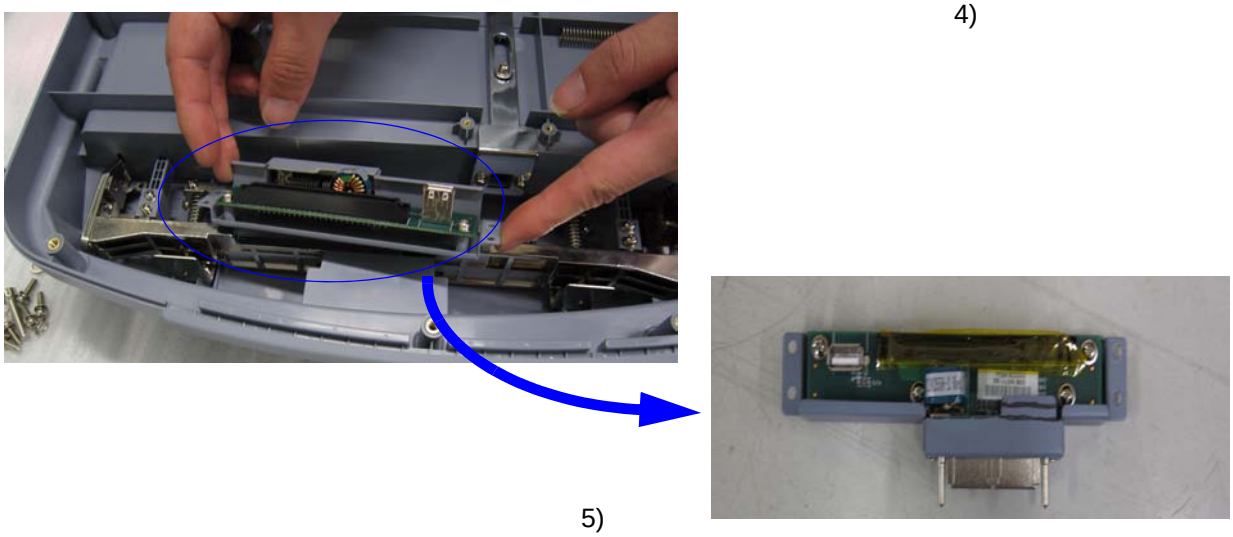


5)

Figure 8-9 Docking Port PCB Assy Disassembly

8-2-9-5 Mounting Procedure

Install the new parts in the reverse order of removal

8-2-10 Speaker Assy

8-2-10-1 Tools

- Common Phillips screwdrivers

8-2-10-2 Needed Manpower

- 1 person, 3 minutes+travel
-

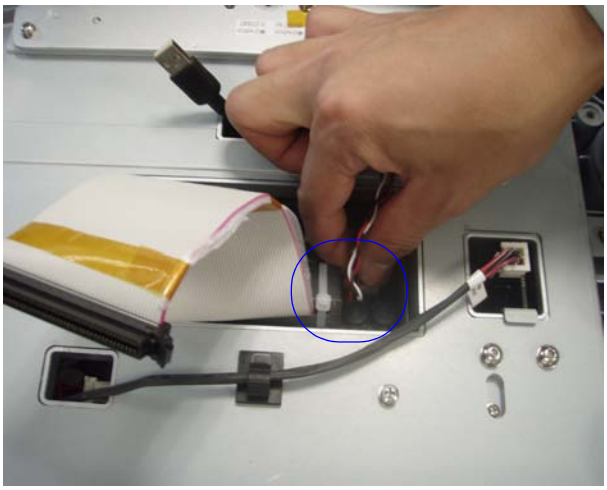
8-2-10-3 Preparation

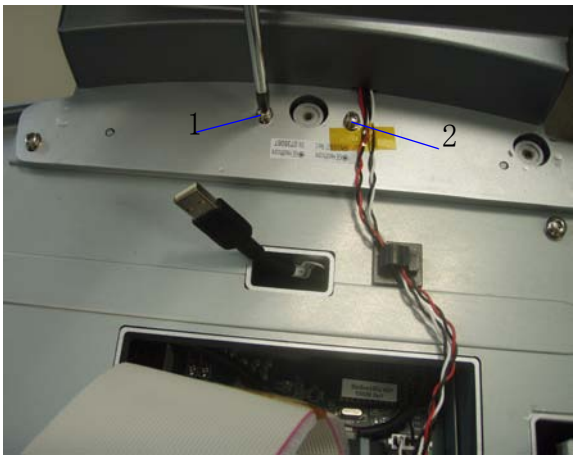
- Shut down the system and switch off the main breaker.

8-2-10-4 Removal procedure

1.) Remove top cover assy, refer to section 8-2-8 on page 18

2.) Disconnect the connector and Unscrew 4 screws [M4X14 (I)] of the speaker assy, refer to Figure 8-10 on page 22 .





2)

Figure 8-10 Speaker Assy Disassembly

8-2-10-5 Mounting Procedure

Install the new parts in the reverse order of removal.

NOTE: When installing Speaker assy, the speaker cable should be installed in the corresponding position of the top cover assy, otherwise it will be damaged.

8-2-11 Three-probe Box Assy

8-2-11-1 Tools

- Common pillips screwdrivers
- Common Hex driver

8-2-11-2 Needed Manpower

- 1 person, 3 minutes+travel
-

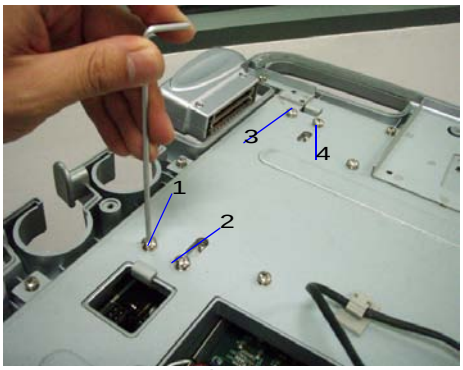
8-2-11-3 Preparation

- Shut down the system and switch off the main breaker.

8-2-11-4 Removal procedure

1.) Remove top cover assy, refer to section 8-2-8 on page 18.
2.) Disconnect one connector, refer to Figure 8-11 on page 23 .
3.) Unscrew 4 screws [M5X16], refer to Figure 8-11 on page 23 .
4.) Before removing the three probe box, disconnect the probe connector, refer to Figure 8-11 on page 23 .
5.) Remove three-probe box assy from bottom cover, refer to Figure 8-11 on page 23 .

2)



3)

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5)

Figure 8-11 Three-probe Box Assy Disassembly

8-2-11-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-12 Three-probe PWA

8-2-12-1 Tools

- Common Phillips screwdrivers
- Common Hex screwdrivers

8-2-12-2 Needed Manpower

- 1 person, 8 minutes+travel

8-2-12-3 Preparation

- Shut down the system and switch off the main breaker.

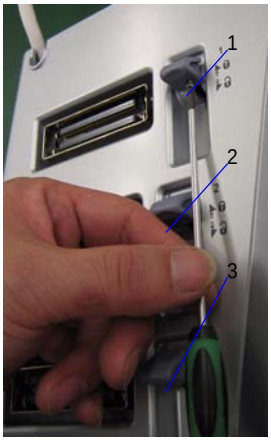
8-2-12-4 Removal procedure

1.) Remove three-probe box assy, refer to section 8-2-11 on page 23.
2.) Lock three probe caps, refer to Figure 8-12 on page 25 .
3.) Unscrew 3 screws [M2X4] on the probe caps, refer to Figure 8-12 on page 25 .
4.) Turn over the box. Unscrew 4 screws [M4X8] on the left cover, refer to Figure 8-12 on page 25 .
5.) Remove the left cover, refer to Figure 8-12 on page 25 .
6.) Unscrew 6 screws [M3X6] on left metal cover, refer to Figure 8-12 on page 25 .
7.) Remove left metal cover, refer to Figure 8-12 on page 25 .
8.) Unscrew 1 screw [M4X8] which fixes three-probe cable, refer to Figure 8-12 on page 25 .
9.) Unscrew 2 screws [M3X10] on three-probe cable and remove it, refer to Figure 8-12 on page 25 .
10.) Unscrew 8 screws [M3X10]] on three-probe box inside bracket and take it out of the box, refer to Figure 8-13 on page 26 .
11.) Unscrew 18 screws[M3X15] on the washers bracket and remove it, refer to Figure 8-13 on page 26 .
12.) Turn over PWA board and remove all the connect levers, connect bushings and bearing bases, refer to Figure 8-13 on page 26 .

NOTE: Do not touch the PWA board with integrated circuits prior to taking the necessary Electrostatic Discharge Prevention.

8-2-12 Three-probe PWA (cont'd)

2)



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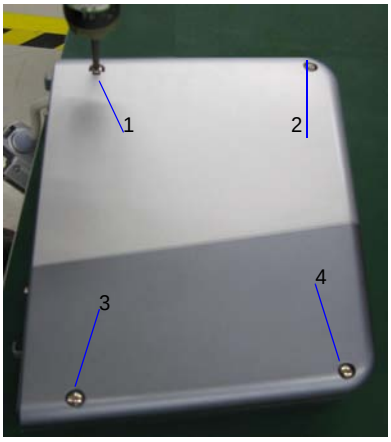

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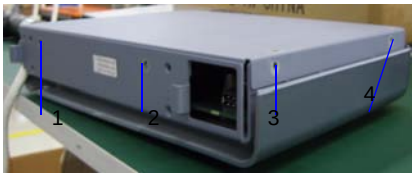

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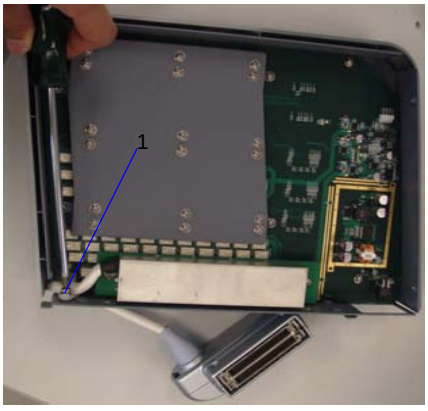

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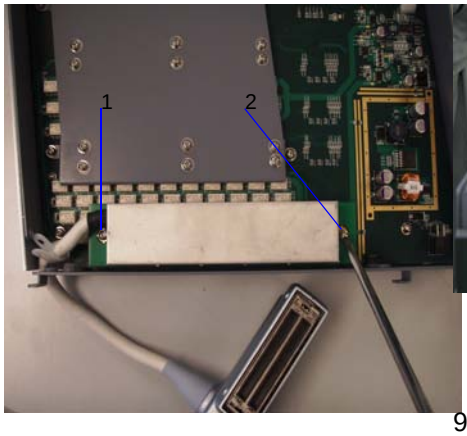

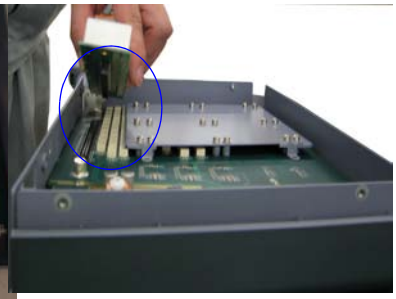

9)

Figure 8-12 Three-probe PWA Disassembly

8-2-12 Three-probe PWA (cont'd)

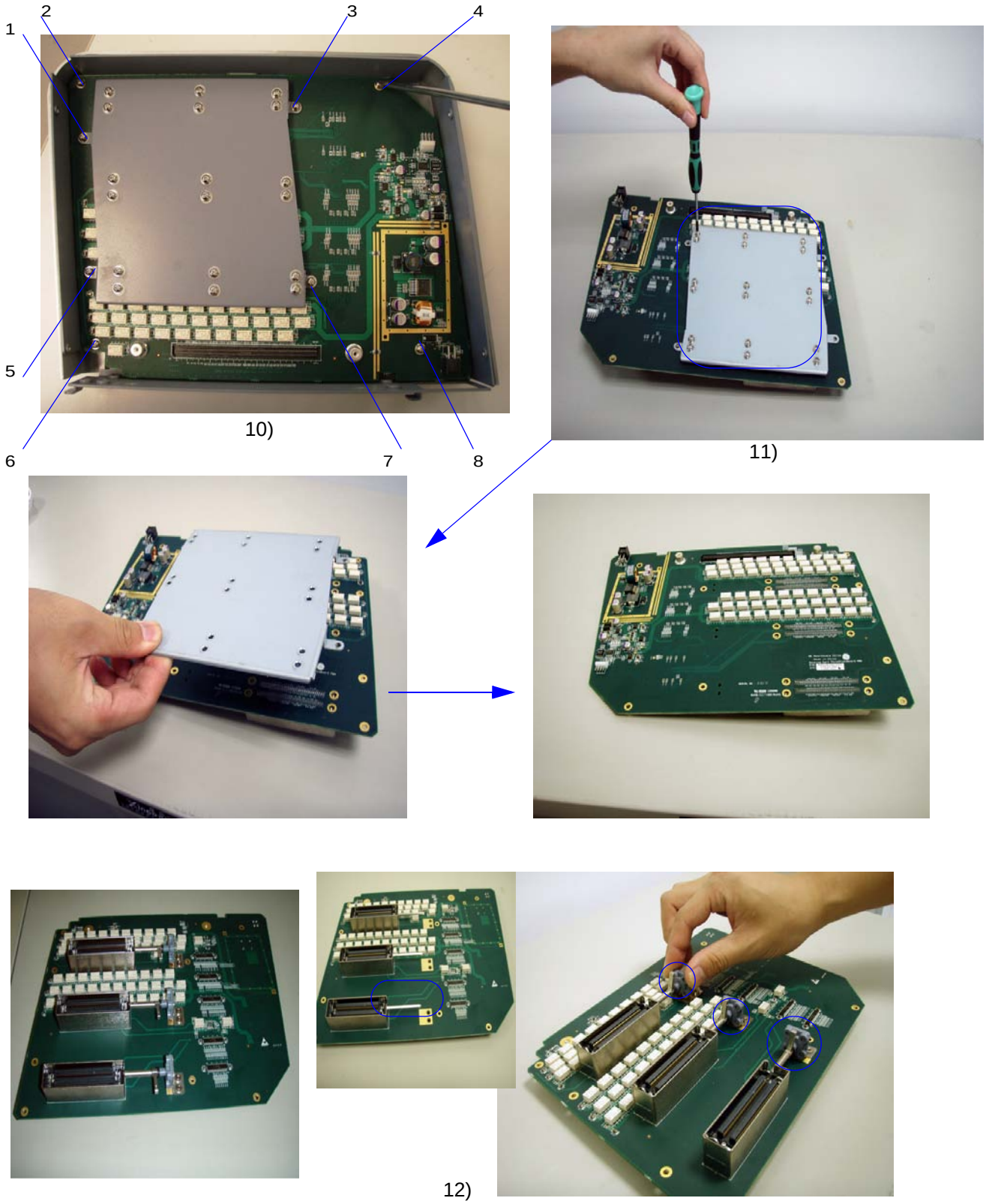

Figure 8-13 Three-probe PWA Disassembly

8-2-12 Three-probe PWA (cont'd)

8-2-12-5 Mounting Procedure

Install the new parts in the reverse order of removal.

NOTE: *When mount Three-Probe PWA board, pay attention to install* connect lever and connect bushing in correct position,

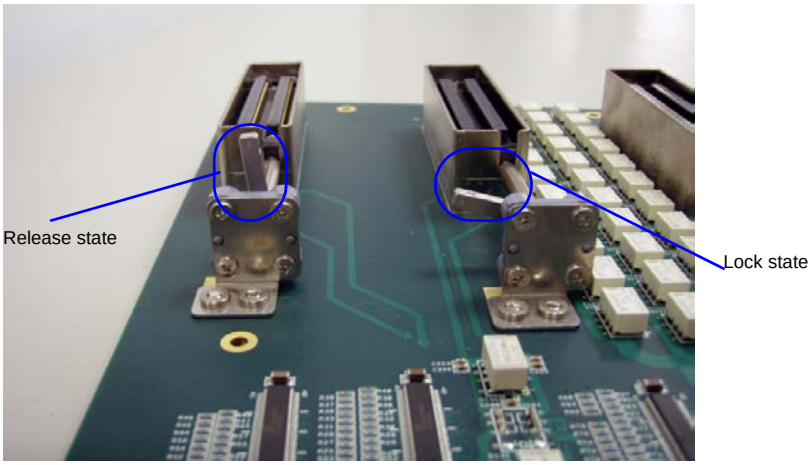

Figure 8-14 Three-probe PWA Disassembly

8-2-13 Docking Station bottom cover Assy

8-2-13-1 Tools

- Common Hex screwdrivers

8-2-13-2 Needed Manpower

- 1 person, 3 minutes+travel

8-2-13-3 Preparations

- Shut down the system and switch off the main breaker.

8-2-13-4 Removal procedure

1.) Remove top cover, refer to section 8-2-8 on page 18.
2.) Remove three-probe box assy, refer to section 8-2-11 on page 23.
3.) Unscrew 4 screws [M5X30] and remove bottom cover assy, refer to Figure 8-15 on page 28 .

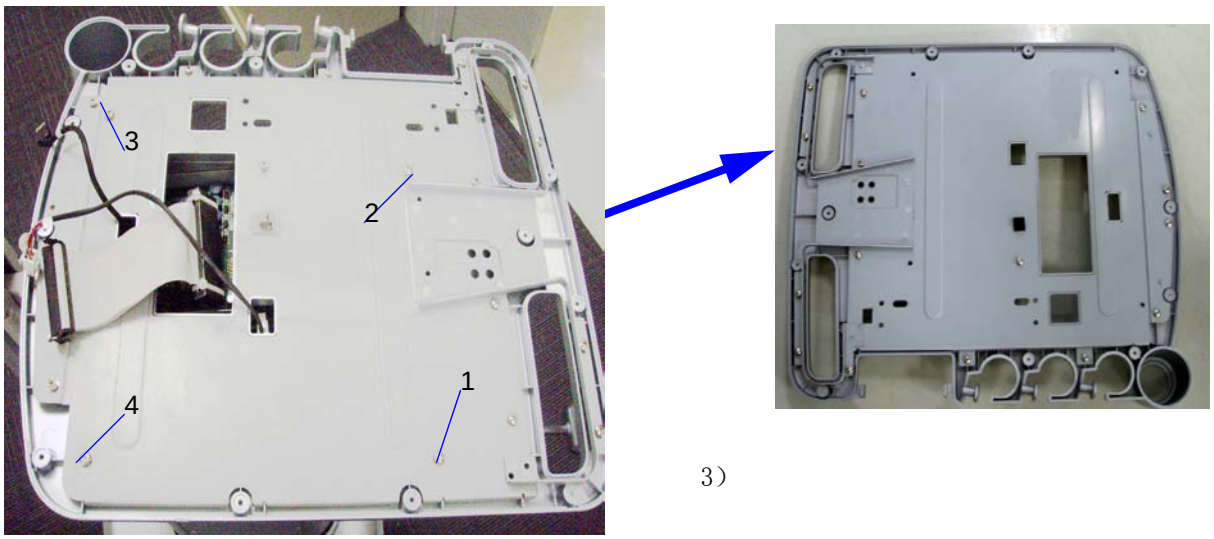

Figure 8-15 Bottom Cover Assy Disassembly

8-2-13-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-14 Docking Station inside bracket Assy

8-2-14-1 Tools

- Common Hex screwdrivers

8-2-14-2 Needed Manpower

- 1 person, 4 minutes+travel

8-2-14-3 Preparations

- Shut down the system and switch off the main breaker.

8-2-14-4 Removal procedure

1.) Remove bottom cover assy, refer to section 8-2-13 on page 28.
2.) Unscrew 4 screws [M5X30] and remove bottom cover assy, refer to Figure 8-16 on page 30 .

8-2-14 Docking Station inside bracket Assy (cont'd)

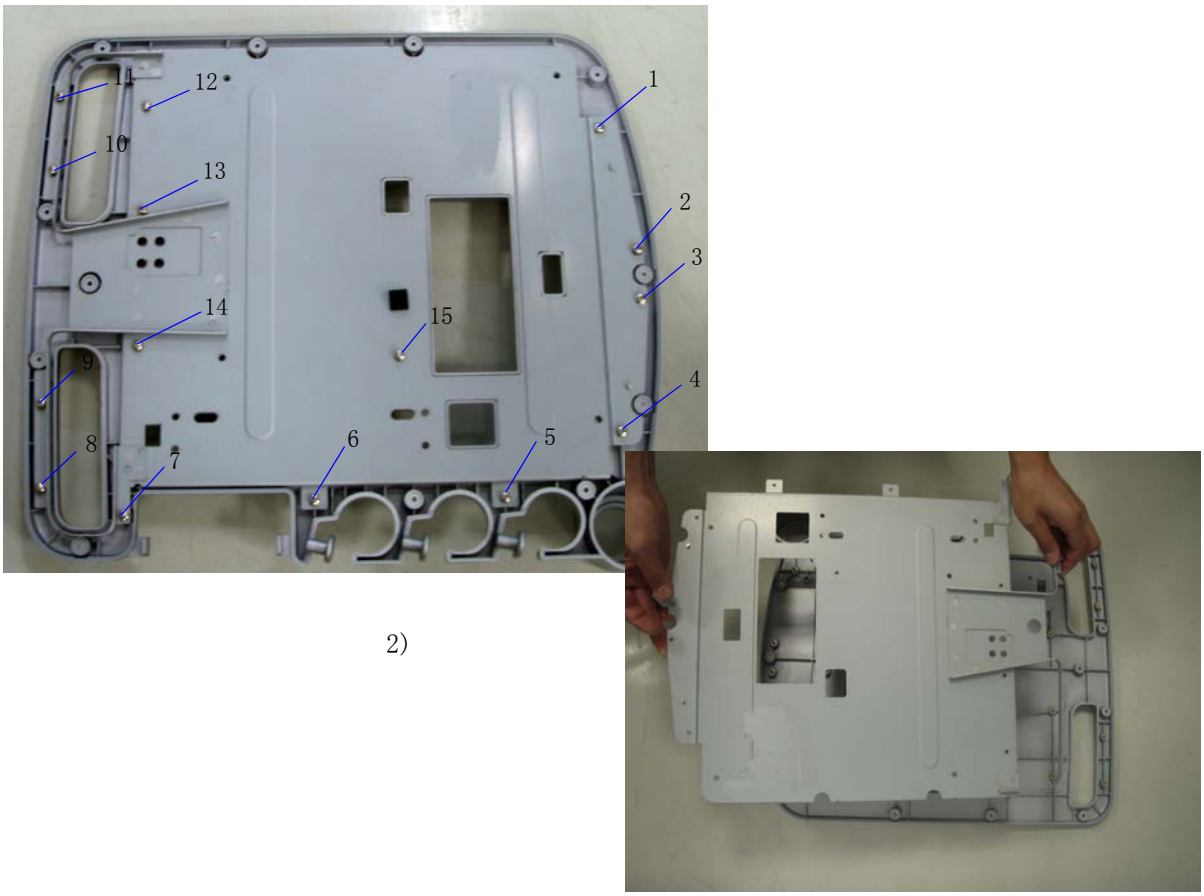

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Figure 8-16 Docking Station inside bracket Assy

8-2-14-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-15 Docking Station Main PWA Assy

8-2-15-1 Tools

- Common Phillips screwdrivers
- Common Hex screwdrivers
- Driver socket

8-2-15-2 Needed Manpower

- 1 person, 5 minutes+travel

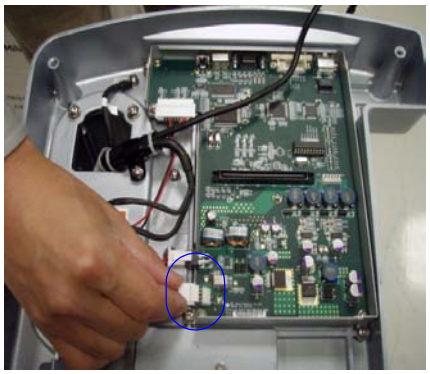
8-2-15-3 Preparations

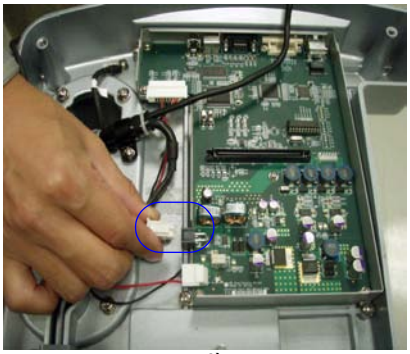
- Shut down the system and switch off the main breaker.

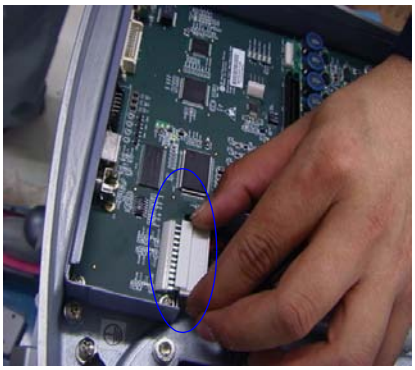
8-2-15-4 Removal procedure

1.) Remove top cover, refer to section 8-2-8 on page 18.
2.) Remove three-probe box, refer to section 8-2-11 on page 23.
3.) Remove bottom cover, refer to section 8-2-13 on page 28.
4.) Disconnect three connectors (video&audio cable connector, power switch cable, connector,DC20V power cable connector), refer to Figure 8-17 on page 32 .
5.) Unscrew 4 screws [M4X8] of main PWA, refer to Figure 8-17 on page 32 .

8-2-15 Docking Station Main PWA Assy (cont'd)







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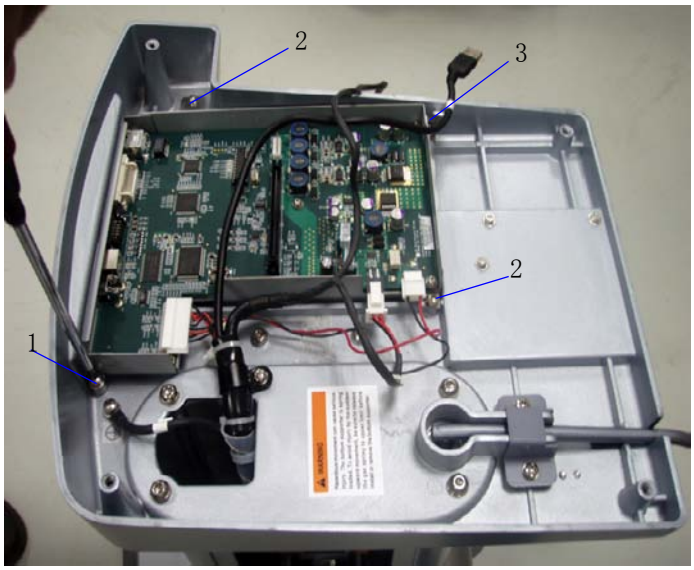


5)

Figure 8-17 Main PWA Assy Disassembly

8-2-16 Gas Spring Lever

8-2-16-1 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-16-2 Tools

- Common Phillips Hex screwdrivers

8-2-16-3 Needed Manpower

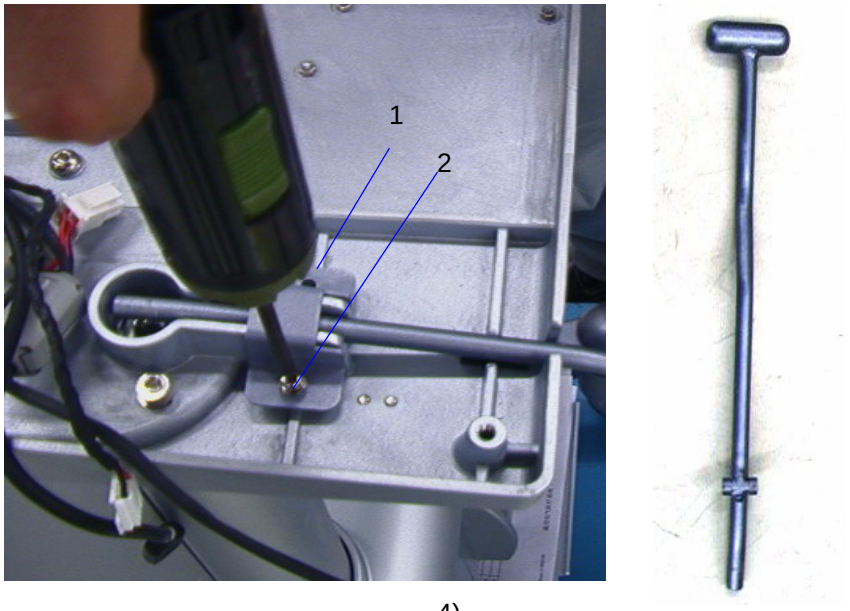
- 1 person, 4 minutes+travel

8-2-16-4 Preparations

- Shut down the system and switch off the main breaker.

8-2-16-5 Removal procedure

1.) Remove Top Cover, refer to section 8-2-8 on page 18.
2.) Remove the Three-Probe Box, refer to section 8-2-11 on page 23.
3.) Remove the Bottom Cover assy, refer to section 8-2-13 on page 28.
4.) Unscrew 2 screws [M4X8] which fix gas spring lever and remove it, refer to Figure 8-18 on page 33 .



4)

Figure 8-18 Gas Spring Lever Disassembly

8-2-16-6 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-17 Docking Station Top Support Assy

8-2-17-1 Tools

- Common Phillips Hex screwdrivers

8-2-17-2 Needed Manpower

- 1 person, 7 minutes+travel

8-2-17-3 Preparations

- Shut down the system and switch off the main breaker.

8-2-17-4 Removal procedure

1.) Remove the Top Cover assy, refer to section 8-2-8 on page 18.
2.) Remove the Three-Probe Box, refer to section 8-2-11 on page 23.
3.) Remove the Bottom Cover assy, refer to section 8-2-13 on page 28.
4.) Remove the Main PWA board, refer to section 8-2-15 on page 31.
5.) Unscrew 4 screws [M6X15], refer to Figure 8-19 on page 35 .
6.) Unscrew 6 screws [[M6X15] on Docking Station bottom support assy. Remove top support bracket, refer to Figure 8-19 on page 35 .

NOTE: Hold the top support assy when unscrewing to prevent it from falling down.

8-2-17 Docking Station Top Support Assy (cont'd)

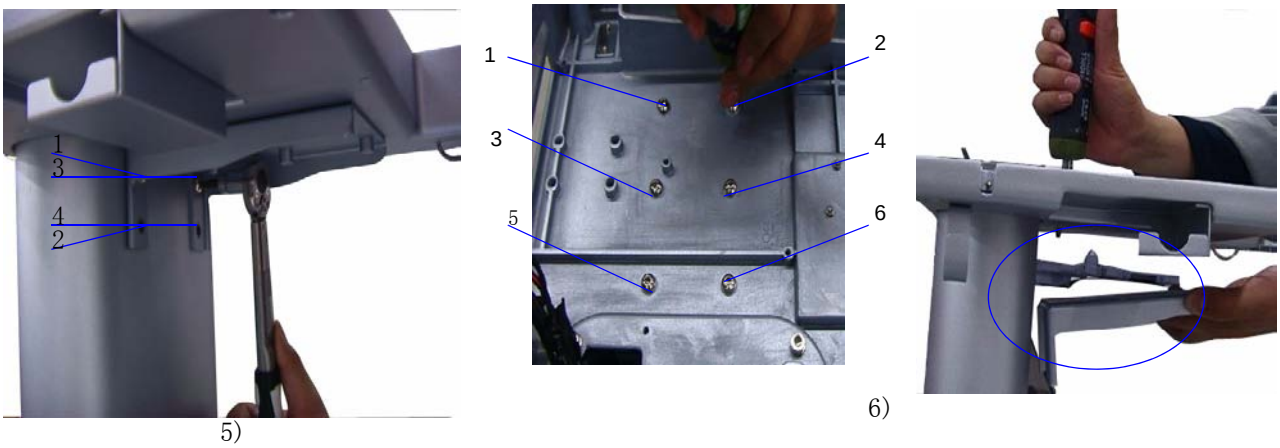


Figure 8-19 Top Support Assy DIsassembly

8-2-17-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-18 USB Hub Assy

8-2-18-1 Tools

- common phillips screwdriver

8-2-18-2 Needed Manpower

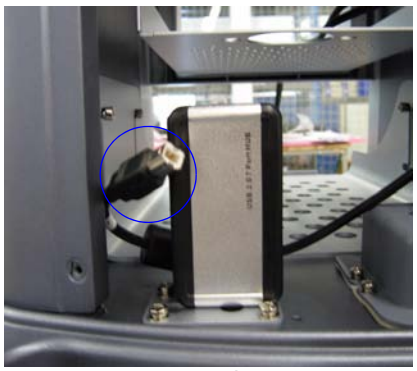
- 1 person, 2 minutes+travel

8-2-18-3 Preparations

- Shut down the system and switch off the main breaker.

8-2-18-4 Removal procedure

1.) Loose 4 screws at the rear panel and remove it, refer to Figure 8-20 on page 36 .
2.) Disconnect USB connector, refer to Figure 8-20 on page 36 .
3.) Remove the USB Hub from the USB Hub bracket, refer to Figure 8-20 on page 36 .
.



2)

3)

Figure 8-20 USB Hub Assy Disassembly

8-2-18-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-19 Transformer Assy

8-2-19-1 Tools

- Common Phillips screwdrivers

8-2-19-2 Needed Manpower

- 1 person, 4 minutes+travel

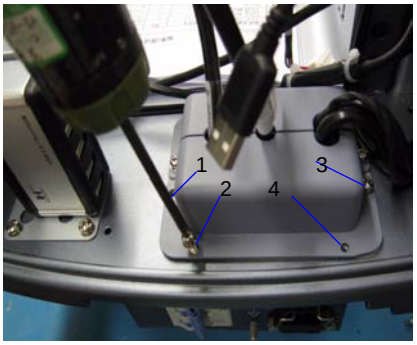
8-2-19-3 Preparations

- Shut down the system and switch off the main breaker.

8-2-19-4 Removal procedure

1.) Loose 4 screws of the rear panel and remove it, refer to Figure 8-21 on page 38 .
2.) Unscrew 4 screws [M4X14] and remove the cover, refer to Figure 8-21 on page 38 .
3.) Disconnect all the cables, refer to Figure 8-21 on page 38 .
4.) Unscrew 2 screws [M4X8] and pull out the transformer assy, refer toFigure 8-21 on page 38 .
5.) Disconnect all the connectors, refer to Figure 8-21 on page 38 .
6.) Remove the transformer assy, refer to Figure 8-21 on page 38 .

8-2-19 Transformer Assy (cont'd)



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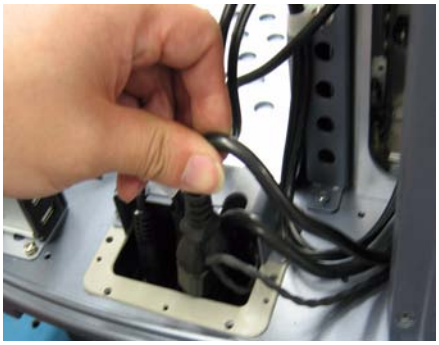

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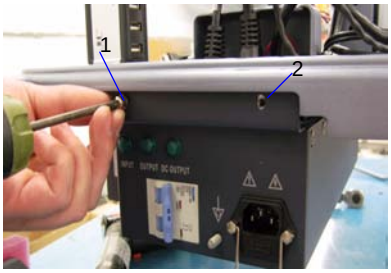

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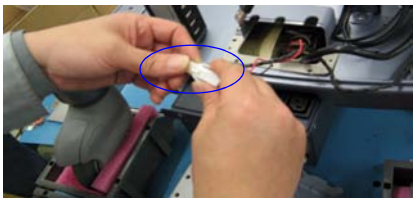

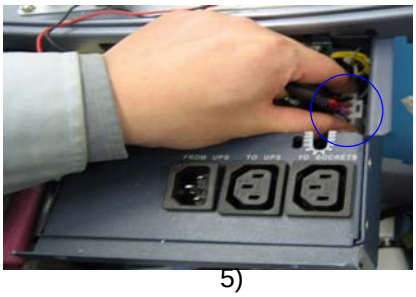

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6)

Figure 8-21 Transformer Assy Disassembly

8-2-19-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-20 Docking Cart Cable Collector Assy

8-2-20-1 Tools

- Common Phillips screwdrivers
- Common Hex screwdrivers
- Driver socket

8-2-20-2 Needed Manpower

- 1 person, 10 minutes+travel

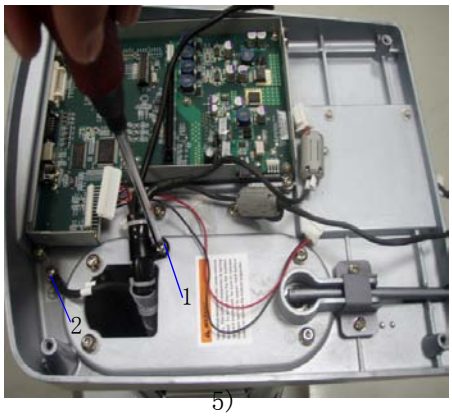
8-2-20-3 Preparations

- Shut down the system and switch off the main breaker.

8-2-20-4 Removal procedure

1.) Remove top cover, refer to section 8-2-8 on page 18.
2.) Remove three-probe box, refer to section 8-2-11 on page 23.
3.) Remove bottom cover, refer to section 8-2-13 on page 28.
4.) Disconnect three connectors (video&audio cable connector, power switch cable, connector,DC20V power cable connector), refer to Figure 8-17 on page 32 .
5.) Unscrew two screws[M4X8], refer to Figure 8-22 on page 40 .
6.) Remove 6 screw caps ,unscrew the 6 screws[DIN965A M4X8] on Up down top base and remove up down top door, refer to Figure 8-22 on page 40 .
7.) Remove one srew [M4X14]on the base bracket, refer to Figure 8-22 on page 40
8.) Unscrew 4 screws [M4X8,M4X14], refer to Figure 8-22 on page 40 .
9.) Loose 4 screws of the rear panel and remove it, refer to Figure 8-21 on page 38 .
10.) Unscrew 4 screws [M4X14] and remove the transformer protective cover, refer to Figure 8-21 on page 38 .
11.) Unscrew 2 screws [M4X8] and pull out the transformer assy, refer to Figure 8-21 on page 38 .
12.) Disconnect all the cables which connect in the transformer, refer to Figure 8-21 on page 38 .
13.) Remove cable connector Assy, refer to Figure 8-22 on page 40 .

8-2-20 Docking Cart Cable Collector Assy (cont'd)



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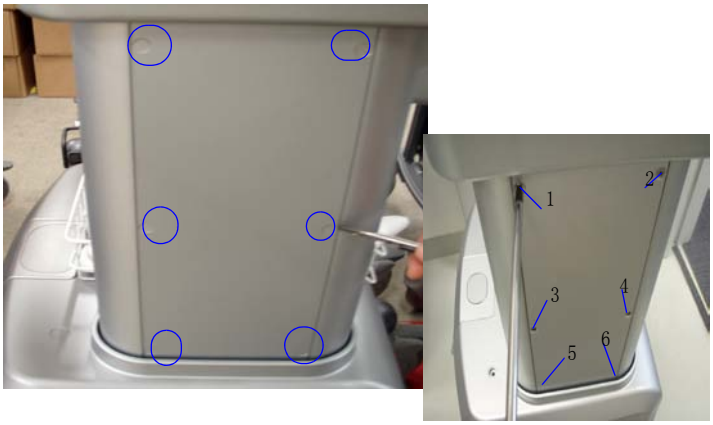

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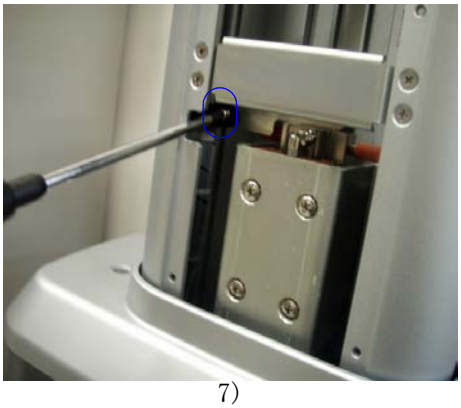

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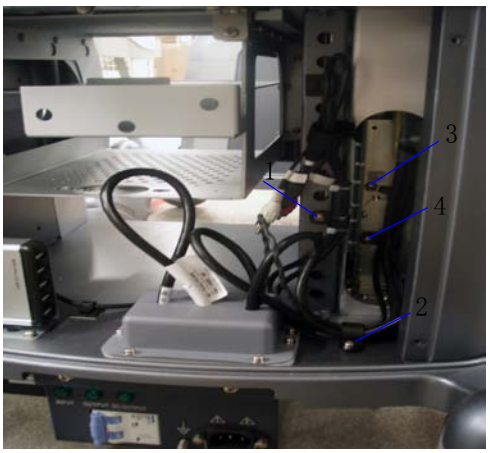

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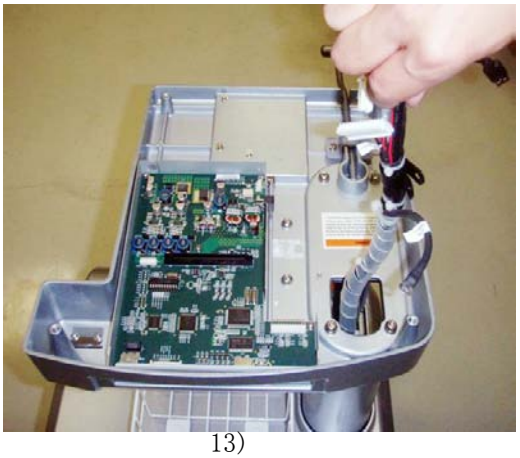


13)

Figure 8-22 Docking Cart Cable Collector Assy

8-2-20-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-21 Power Strip Assy

8-2-21-1 Tools

- Common Phillips screwdrivers

8-2-21-2 Needed Manpower

- 1 person, 4 minutes+travel

8-2-21-3 Preparations

- Shut down the system and switch off the main breaker.

8-2-21-4 Removal procedure

1.) Loose 4 screws of the rear panel and remove it, refer to Figure 8-23 on page 41 .
2.) Unscrew 1 screw [[M4x14] of the cable clip, refer to Figure 8-23 on page 41 .
3.) Unscrew 4 screws [M4x14] and remove the cover, refer to Figure 8-23 on page 41 .
4.) Disconnect the cable, refer to Figure 8-23 on page 41 .
5.) Unscrew 4 screws [M4x8] of the power strip and remove it, refer to Figure 8-23 on page 41 .

Figure 8-23 Power Strip Disassembly

8-2-21-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-22 Storage rack

8-2-22-1 Tools

No special tools

8-2-22-2 Needed Manpower

- 1 person,1 minutes+travel

8-2-22-3 Preparations

- Shut down the system and switch off the main breaker.

8-2-22-4 Removal procedure

1.) Unscrew 2 screws[M5X35] and remove the storage rack from the top cabinet, refer to Figure 8-24 on page 43 .

8-2-22-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-22 Storage rack (cont'd)

1)

Figure 8-24 Storage Rack Assy

8-2-23 Gas Spring

8-2-23-1 Tools

- Common Hex driver
- Allen/Unbraco wrench
- common Phillips screwdriver

8-2-23-2 Needed Manpower

- 1 person, 10 minutes+travel

8-2-23-3 Preparations

- Shut down the system and switch off the main breaker.

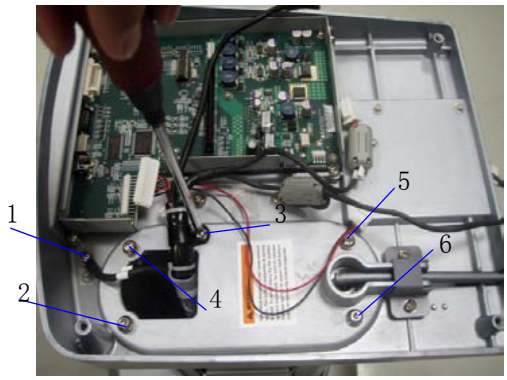
8-2-23-4 Removal procedure.

1.) Remove the top cover assy, refer to section 8-2-8 on page 18.
2.) Remove three-probe box, refer to section 8-2-11 on page 23.
3.) Remove the bottom cover assy, refer to section 8-2-13 on page 28.
4.) Unscrew 6 [M6X26,M4X8] screws, refer to section 8-2-17 on page 34.
5.) Remove Gas Spring Lever, refer to section Figure 8-18 on page 33.
6.) Remove the Docking Station bottom supporter assy, refer to section 8-2-17 on page 34.

CAUTION Gas Spring must be in the highest height during the disassembly work.

7.) Remove the storage rack, refer to section 8-2-22 on page 42.
8.) Remove 3 screw caps and unscrew the 3 screws [M5X30] on the top cabinet, refer to Figure 8-25 on page 45 .
9.) Unscrew 4 screws[M5X16], refer to Figure 8-25 on page 45 .
10.) Remove the left front cabinet. Refer to Figure 8-25 on page 45 .
11.) Unscrew 1 nut [M10] by wrench and remove gas springer, refer to Figure 8-25 on page 45 .
12.) Unscrew 1 screw [M8X28], refer to Figure 8-25 on page 45 .

8-2-23 Gas Spring (cont'd)



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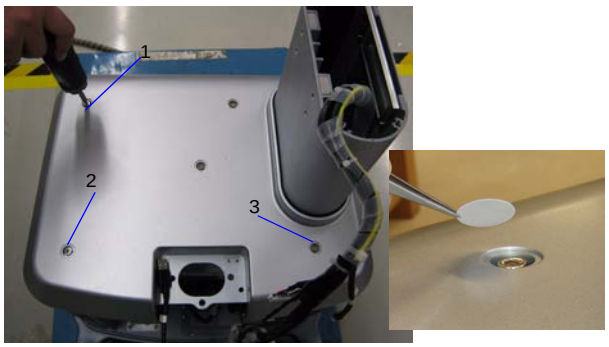

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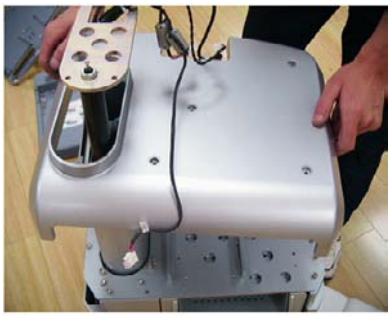

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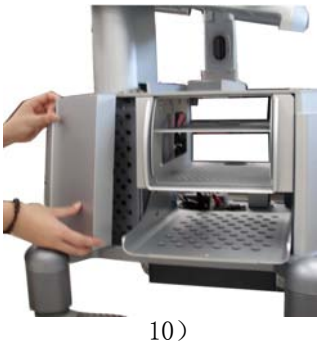

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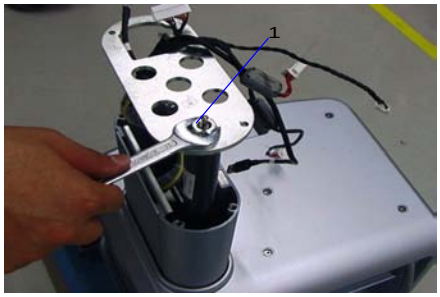

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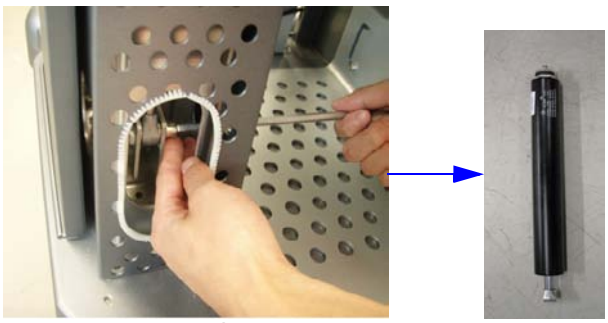


12)

Figure 8-25 Gas Spring Disassembly

8-2-23-5 Mounting Procedure

Install the new parts in the reverse order of removal.

8-2-24 Wheel Replacement

8-2-24-1 Tools

- Common Hex driver
- Spanner
- Wooden Wedge
- Wooden bevel

NOTE: Wooden Wedge and Wooden bevel should be ordered by the user.

- 1 person, 6 minutes+travel

8-2-24-2 Preparations

- Shut down the system and switch off the main breaker.

8-2-24-3 Replacement Procedure

For Wheels Replacemen tof Short Cart

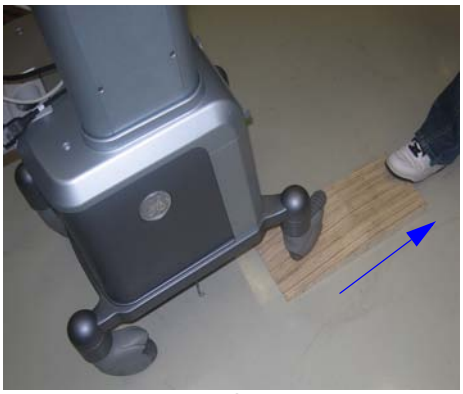
1.) Pull one of the wheels on the wedge, refer toFigure 8-26 on page 47 .
2.) Lock the wheels in order to avoid cart moving during wheel change.
3.) Fix the first groove of the wooden wedge under the base chassis and at diagonal position of the wheel which is replaced, refer to Figure 8-26 on page 47 .
4.) Use spanner to unscrew the wheel and remove it, refer to Figure 8-26 on page 47 .
5.) Touch the screw hole in the base chassis, install the castor to the screw hole and fix the castor with spanner, refer to Figure 8-26 on page 47 .
6.) Unlock the font castor and pull the cart down from the wooden bevel.
7.) Repeat above procedures to replace other wheels.

For Wheels Replaceme of High Cart

* The replacement procedures for high cart are the same.

NOTE: When changing wheels of high creativity the first groove of the wooden wedge under the base chassis.

8-2-24 Wheel Replacement (cont'd)



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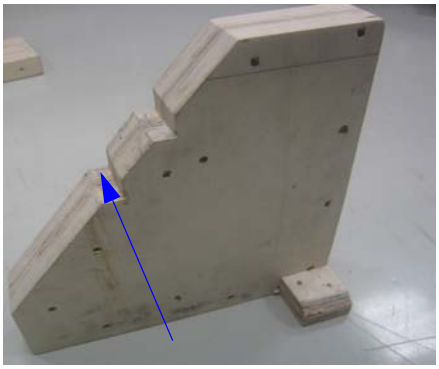

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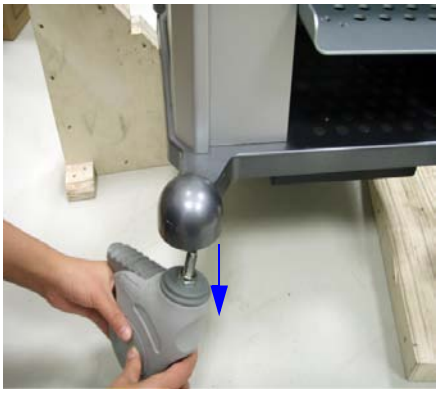

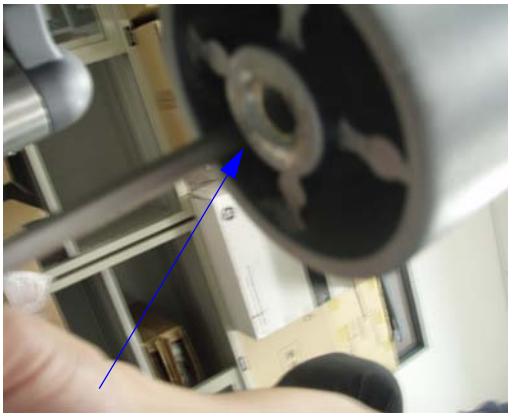

Figure 8-26 Replacement Procedure

Section 8-3Checks after FRU replacement (Debrief Guidelines)

1.) Perform required Functional ,Diagostic and/or Leakage Current tests based upon the FRU being replaced.

2.) Clarify the scripts to debrief a Service Dispatch using your pole's dispatch tool. Use this script in the Service Comments when debriefing a Service Dispatch.

For a replaced FRU, use the following debrief script:

Service Manual, Direction 5191399-100 Section [fill in appropriate section].

Equipment passed all required tests and is ready for use.

And, if testing leaking current, use the following text.

Service Manual, Direction 5191399-100 Section [fill in appropriate section].

Leakage Current meets allowable limits. Equipment passed all required tests and is ready for use.

8-3-1 Mechanical Check

8-3-1-1 Mechanical Checks Procedure

1.) Check the sort and the quantity of the srews /screw caps according to Table 8-3 on page 49.

2.) Check the torque of the screws according to Table 8-3 on page 49.

8-3-1-2 Test Criteria

1.) All sort and the quantity of the the screws and screw caps should match with the data in Table 8-3 on page 49.

2.) The torque of the screws should be in accord with the data in Table 8-3 on page 49.

8-3-1-3 Mechanical Check List

Table 8-3 Screws and Screw Caps check list

Section	Type of the Screws	Quantity	Torque	Quantity of the Screw caps
8-2-3	M4X8	2	1.4NM±0.2NM	2
	M4X12	1	1.4NM±0.2NM	
	M4X14	4	1.4NM±0.2NM	
8-2-4	M6X30	4	4.8NM±0.5NM	
8-2-5	M6X15	3	4.0NM±0.4NM	
8-2-6	M6X15	3	4.0NM±0.4NM	
8-2-7	M6X15	3	4.8NM±0.5NM	
	M6X30	6	4.8NM±0.5NM	
	SJ2836-87 M4X14 (I)	5	1.4NM±0.2NM	
	M5X16	10	4.0NM±0.4NM	
8-2-8	M4X18	12	1.4NM±0.2NM	
8-2-9	M3X6	3	0.6NM±0.1NM	
	M3X10	3	0.6NM±0.1NM	
8-2-10	M4X14(I)	4	1.4NM±0.2NM	
8-2-11	M5X16	4	2.8NM±0.3NM	
8-2-12	M2X4	3	0.2NM±0.1NM	
	M3X6	6	0.6NM±0.1NM	
	M4X8	5	1.4NM±0.2NM	
	M3X10	10	0.6NM±0.1NM	
	M3X15	18	0.6NM±0.1NM	
8-2-13	M5X10	4	4.0NM±0.4NM	
8-2-14	M5X30	4	4.0NM±0.4NM	
8-2-15	M4X8	4	1.4NM±0.2NM	
8-2-16	M4X8	2	1.4NM±0.2NM	
8-2-17	M6X15	4	4.0NM±0.4NM	
8-2-19	M4X14	4	1.4NM±0.2NM	
	M4X8	2	1.4NM±0.2NM	
8-2-20	M4X8	8	1.4NM±0.2NM	6
	M4X14	8	1.4NM±0.2NM	
8-2-21	M4X14	5	1.4NM±0.2NM	
	M4X8	4	1.4NM±0.2NM	
8-2-22	M3X35	2	2.8NM±0.5NM	
8-2-23	M6X26	4	4.8NM±0.5NM	
	M4X8	2	1.4NM±0.2NM	
	M5X30	3	4.0NM±0.4NM	
	M5X16	4	2.8NM±0.3NM	
	M10	1	12NM±2NM	
	M8X28	1	12NM±1.2NM	
3-5-4	M4X8	2	1.4NM±0.2NM	3
	M5X30	3	4.0NM±0.4NM	
3-5-5	M5X16	8	4.0NM±0.4NM	
3-5-6	M5X30	2	4.0NM±0.4NM	
	M3X6	4	0.6NM±0.1NM	
	M5X12	2	2.8NM±0.3NM	
	M4X8	2	1.4NM±0.2NM	
8-2-24	Wheel		20NM±2NM	
3-5-10	M6X15	4	4.0NM±0.4NM	
	M4X25	4	1.4NM±0.2NM	

8-3-1 Mechanical Check (cont'd)

NOTE: If the screw M4X18,M4X8 and M4X14 is fixed on plastic part,the torque should be 0.4NM±0.2NM.

If the screw M6x26 is fixed on plastic,the torque should be 1.0NM±0.5NM.

8-3-2 Function Check

8-3-2-1 General Check Procedure

Table 8-4 Power On System

Item	Check Procedure	Criteria
1	Mount the system into Docking Cart, the battery of console system is not full.	
2	Power on the Docking Cart	System's charge LED is lighting
3	Power on the system.	Docking Cart's transformer's "OUTPUT" indicator light is lighting
4	Power off the system.	System's charge LED is lighting, the Docking Cart's Transformer's 'OUTPUT''indicator light is OFF.

Table 8-5 Audio Signal Check

Item	Check Procedure	Criteria
1	Mount system into the Docking Cart	
2	Power on the Docking Cart	
3	Power on the system	
4	Enter the "PWD"Mode	External Speaker's left box and righ box can sound
5	Adjust the Volume	External Speaker's volume can be changed related the volume adjusting action.

Table 8-6 VGA Output Check

Item	Check Procedure	Criteria
1	Mount system in to Docking Cart,	Gerneral purpose LCD or CRT shows the same content as the Console system's LCD screen.
2	Power on the Docking Cart.	
3	Connect the VGA to general purpose LCD or CRT°Øs VGA port.	
4	Switch the system to support external monitor. Press Ctrl+Alt+V	

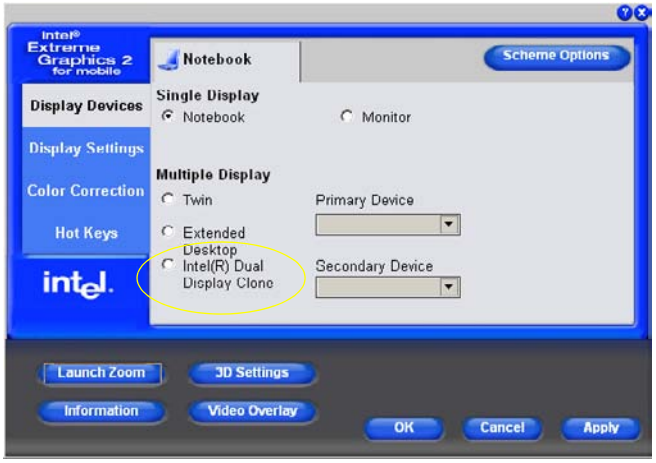

Figure 8-27 Select Intel(R) Dual Display Clone and select OK

8-3-2-1 General Check Procedure (cont'd)

Table 8-7 DVR Video Signal Check

Item	Check Procedure	Criteria
1	Mount system in to Docking Cart	No error report windows are ejected. Can record one sector video.
2	Power on the Docking Cart.	
3	Power on the system.	
4	Connect the Video signals (SVideo, CH1, CH2) to DVR.	
5	Switch the system to support external monitor,refer toTable on page 51	
6	Enter the Console system's DVR Control interface, to record one sector video.	

Table 8-8 DVI Output

Item	Check Procedure	Criteria
1	Mount system in to Docking Cart	General purpose LCD or CRT or Docking Cart dedicated External LCD shows the same content as the system LCD screen.
2	Power on the Docking Cart.	
3	Power on the system.	
4	Connect the DVI port to general purpose LCD or CRT°Øs or Docking Cart dedicated Externla LCD's DVI port.	

Table 8-9 Network Port

Item	Check Procedure	Criteria
1	Mount system in to Docking Cart	The green and yellow LED of Docking Cart Net port is lighting or flicking.
2	Power on the Docking Cart.	
3	Power on the system.	
4	Connect the Docking Cart's network port with HUB or wall net port	

Table 8-10 USB Port

Item	Check Procedure	Criteria
1	Mount system in to Docking Cart	The connected USB Device does work properly.
2	Power on the Docking Cart.	
3	Power on the system.	
4	Connect any of type USB Device to USB HUB	

Table 8-11 Three Probe Box

Item	Check Procedure	Criteria
1	Mount system in to Docking Cart	
2	Power on the Docking Cart.	
3	Power on the system.	
4	Conect the Docking Cart 3-probe connector to system.	
5	If it is possible,connect three different probes which are supported by the system to 3 probe ports	
6	Press Preset key.	All probe's name should be shown on the corresponding position of probe information menu.
7	Select the Port1	The corresponding probe does work properly
8	Press Preset key	
9	Select the Port2	The corresponding probe does work properly
10	Press Preset key	
11	Select the Port3	The corresponding probe does work properly

8-3-2-1 General Check Procedure (cont'd)

Table 8-12 Transformer

Item	Check Procedure	Criteria
1	Mount system in to Docking Cart.The Battery of system is not full	
2	Power on the Docking Cart.	1. **INPUT** and **DC OUTPUT** indicator light of Transformer is lighting. **OUTPUT** indicator light is off. 2. System's charge LED is lighting
3	Power on the system.	The **OUPUT** indicator light is lighing
4	Power off the system	The **OUPUT** indicator light is off
5	Power off the Docking Cart	**INPUT** and **DC OUTPUT** indicator light are off

Table 8-13 Power Strip

Item	Check Procedure	Criteria
1	Mount system in to Docking Cart	Every outlet of Power Strip°Øs output is 100-120V~ / 220V-240V~ corresponding with country.
2	Power on the Docking Cart.	
3	Power on the system.	

Table 8-14 Touch Panel Assy (For Software R5.2.x, R6.x.x and R7.x.x)

Item	Check Procedure	Criteria
1	Mount system in to Docking Cart	
2	Connect DVI and USB cable of Touch Screen with LOGIQ e	
3	Power on the Docking Cart.	
4	Power on the system and the touch panel	After booting completed, LOGIQ e image should be ported on Touch screen
5	Use "F12" to activate touch user interface	A touch user interface should be displayed
6	Use finger click "Gai"control on Touch screen	A beep sound should be spoken out and it does work properly.

Table 8-15 Arm (For Software R5.2.x, R6.x.x and R7.x.x)

Item	Check Procedure	Criteria
1	lift the Arm	The Arm will not sild down

8-3-3 Check Matrix

Table 8-16 Check Matrix

See Section	FRU No.	Description	Mechanical Check	Hardware Check	Debrief script
8-2-3	100	Secondary LCD	Refer to 8-3-1 "Mechanical Check" on page 8-49.	DVI Output check ,refer toTable 8-8 on page 52	Service Manual Direction 5191399-100, Section 8-2-3. Equipment passes all required tests and is ready for use.
8-2-4	102	Arm Support ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49.		Service Manual Direction 5191399-100, Section 8-2-4. Equipment passes all required tests and is ready for use.
8-2-5	101	The Sencondary Monitor Arm ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49.	DVI Output check ,refer toTable 8-8 on page 52	Service Manual Direction 5191399-100, Section 8-2-5. Equipment passes all required tests and is ready for use.
8-2-6	103	Monitor Support Space Cap	Refer to 8-3-1 "Mechanical Check" on page 8-49		Service Manual Direction 5191399-100, Section 8-2-6. Equipment passes all required tests and is ready for use
8-2-7	1001.1002	Touch Panel Flexible Arm	Refer to 8-3-1 "Mechanical Check" on page 8-49	Touch Panel Assy check, refer to Table 8-14 on page 53 Arm Check, refer to Table 8-15 on page 53	Service Manual Direction 5191399-100, Section 8-2-7. Equipment passes all required tests and is ready for use.
8-2-8	200	Docking Station Top Cover ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49 .	Power On System Check,refer toTable 8-4 on page 51 . Network Port Check, refer to Table 8-9 on page 52. USB Port Check,refer to Table 8-10 on page 52. If the Cart has DVR, please add Audio Signal Check,refer toTable 8-5 on page 51. If the Cart has the Senondary LCD,please add DVI Output check ,refer toTable 8-8 on page 52 . If the Cart has speaker,please add VGA Output Check, refer to Table 8-6 on page 51. If the Cart has Three Probe Box,please add Three Probe Box check,refer to Table 8-11 on page 52.	Service Manual Direction 5191399-100, Section 8-2-8. Equipment passes all required tests and is ready for use

Table 8-16 Check Matrix

See Section	FRU No.	Description	Mechanical Check	Hardware Check	Debrief script
8-2-9	203	Docking Port PCB ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49	Power On System Check,refer toTable 8-4 on page 51 . Network Port Check, refer to Table 8-9 on page 52. USB Port Check,refer to Table 8-10 on page 52. If the Cart has DVR, please add Audio Signal Check,refer toTable 8-5 on page 51. If the Cart has the Senondary LCD,please add DVI Output check ,refer toTable 8-8 on page 52 . If the Cart has speaker,please add VGA Output Check, refer to Table 8-6 on page 51. If the Cart has Three Probe Box,please add Three Probe Box check,refer to Table 8-11 on page 52.	Service Manual Direction 5191399-100, Section 8-2-9. Equipment passes all required tests and is ready for use
8-2-10	801	Speaker ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49	VGA Output Check, refer to Table 8-6 on page 51.	Service Manual Direction 5191399-100, Section 8-2-10. Equipment passes all required tests and is ready for use
8-2-11	300	Three Probe Box ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49	Three Probe Box Check, refer to Table 8-11 on page 52.	Service Manual Direction 5191399-100, Section 8-2-11. Equipment passes all required tests and is ready for use
8-2-12	204	Three-Probe PWA	Refer to 8-3-1 "Mechanical Check" on page 8-49	Three Probe Box Check, refer to Table 8-11 on page 52.	Service Manual Direction 5191399-100,Section 8-2-12. Equipment passes all required tests and is ready for use
8-2-13	201	Docking Station Bottom Cover Assy	Refer to 8-3-1 "Mechanical Check" on page 8-49	All the Hardware Funtion should be checked,refer to 8-3-2 "Function Check" on page 8-51.	Service Manual Direction 5191399-100, Section 8-2-13. Equipment passes all required tests and is ready for use
8-2-14	202	Docking Station Inside Bracket ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49	All the Hardware Funtion should be checked,refer to 8-3-2 "Function Check" on page 8-51.	Service Manual Direction 5191399-100, Section 8-2-14. Equipment passes all required tests and is ready for use.

Table 8-16 Check Matrix

See Section	FRU No.	Description	Mechanical Check	Hardware Check	Debrief script
8-2-15	204	Docking Station Main PWA ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49	Power On System Check,refer toTable 8-4 on page 51 . Network Port Check, refer to Table 8-9 on page 52. USB Port Check,refer to Table 8-10 on page 52. If the Cart has DVR, please add Audio Signal Check,refer toTable 8-5 on page 51. If the Cart has the Senondary LCD,please add DVI Output check ,refer toTable 8-8 on page 52 . If the Cart has speaker,please add VGA Output Check, refer to Table 8-6 on page 51. If the Cart has Three Probe Box,please add Three Probe Box check,refer to Table 8-11 on page 52	Service Manual Direction 5191399-100, Section 8-2-15. Equipment passes all required tests and is ready for use.
8-2-16	901	Gas Spring Lever	Refer to 8-3-1 "Mechanical Check" on page 8-49	All the Hardware Funtion should be checked,referto 8-3-2 "Function Check" on page 8-51	Service Manual Direction 5191399-100, Section 8-2-16. Equipment passes all required tests and is ready for use.
8-2-17	310	Docking Station Top Support ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49	All the Hardware Funtion should be checked,referto 8-3-2 "Function Check" on page 8-51	Service Manual Direction 5191399-100, Section 8-2-17. Equipment passes all required tests and is ready for use.
8-2-19	600,601	Transformer ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49	Transformer Check, refer to Table 8-12 on page 53. Power Strip Check, refet to Table 8-13 on page 53.	Service Manual Direction 5191399-100, Section 8-2-19. Equipment passes all required tests and is ready for use.

Table 8-16 Check Matrix

See Section	FRU No.	Description	Mechanical Check	Hardware Check	Debrief script
8-2-20	701	Dockin Cart Cable Collector ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49	Power On System Check,refer toTable 8-4 on page 51 . Network Port Check, refer to Table 8-9 on page 52. USB Port Check,refer to Table 8-10 on page 52. Transformer Check, refer to Table 8-12 on page 53. If the Cart has DVR, please add Audio Signal Check,refer toTable 8-5 on page 51. If the Cart has the Senondary LCD,please add DVI Output check ,refer toTable 8-8 on page 52 . If the Cart has speaker,please add VGA Output Check, refer to Table 8-6 on page 51. If the Cart has Three Probe Box,please add Three Probe Box check,refer to Table 8-11 on page 52	Service Manual Direction 5191399-100, Section 8-2-20. Equipment passes all required tests and is ready for use.
8-2-21	603	Power Strip ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49	Power Strip Check, refet to Table 8-13 on page 53.	Service Manual Direction 5191399-100, Section 8-2-21. Equipment passes all required tests and is ready for use.
8-2-22	403	Storage Rack	Refer to 8-3-1 "Mechanical Check" on page 8-49		Service Manual Direction 5191399-100, Section 8-2-22. Equipment passes all required tests and is ready for use.

Table 8-16 Check Matrix

See Section	FRU No.	Description	Mechanical Check	Hardware Check	Debrief script
8-2-23		Gas Spring	Refer to 8-3-1 "Mechanical Check" on page 8-49	Power On System Check,refer toTable 8-4 on page 51 . Network Port Check, refer to Table 8-9 on page 52. USB Port Check,refer to Table 8-10 on page 52. Transformer Check, refer to Table 8-12 on page 53. Power Strip Check, refet to Table 8-13 on page 53. If the Cart has DVR, please add Audio Signal Check,refer toTable 8-5 on page 51. If the Cart has the Senondary LCD,please add DVI Output check ,refer toTable 8-8 on page 52 . If the Cart has speaker,please add VGA Output Check, refer to Table 8-6 on page 51. If the Cart has Three Probe Box,please add Three Probe Box check,refer to Table 8-11 on page 52	Service Manual Direction 5191399-100, Section 8-2-23. Equipment passes all required tests and is ready for use.
3-5-4	401	DVD/Printer Shelf ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49		Service Manual Direction 5191399-100, Section 3-5-4. Equipment passes all required tests and is ready for use.
3-5-5	400	Peripheral Shelf ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49		Service Manual Direction 5191399-100, Section 3-5-5. Equipment passes all required tests and is ready for use.
3-5-6	402	Top Support DVD/Printer Shelf ASSY	Refer to 8-3-1 "Mechanical Check" on page 8-49		Service Manual Direction 5191399-100, Section 3-5-6. Equipment passes all required tests and is ready for use.
8-2-24	604,605,606	Wheel Replacement ASSY	1.Refer to 8-3-1 "Mechanical Check" on page 8-49 2.Push and pull the Docking Cart		Service Manual Direction 5191399-100, Section 8-2-24. Equipment passes all required tests and is ready for use.

Chapter 9
Renewal Parts

Section 9-1
Overview

9-1-1 Purpose of Chapter 9

This chapter gives you an overview of Renewal Parts for Docking Cart.

Table 9-1 Contents in chapter 9

Section	Description	Page Number
Section 9-1	Overview	9-1
Section 9-2	List of Abbreviations	9-1
Section 9-3	Renewal Parts List	9-2
Section 9-4	Operator Console Assy	9-3
Section 9-5	Secondary Monitor	9-4
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Section 9-13	Gas spring and Gas Spring Lever	9-12
Section 9-14	Touch Panel and Arm (For Software Version R5.2.x, R6.x.x and R7.x.x)	9-13

Section 9-2
List of Abbreviations

- Assy - Assembly
- Ctrl - Control
- FRU 1 - Replacement part available in part hub
- FRU 2 - Replacement part available from the manufacturer (lead time involved)
- Int - Internal
- I/O - Input/Output
- LCD - Liquid Crystal Display
- MON - Monitor
- PAT. - Patient
- PC - Personal Computer (Back End Processor)

Section 9-3 Renewal Parts List

9-3-1 Equipment Models Covered in this Chapter

Table 9-2 AC Power Cord

Part Name	Part Number	Description	Qty	FRU
AC Power Cord	5177146	Cart AC Power Cord USA Class	1	1
AC Power Cord	5177123	Cart AC Power Cord Europe Class	1	1
AC Power Cord	5176304	Cart AC Power Cord China Class	1	1
AC Power Cord	5177126	Cart AC Power Cord Japan Class	1	1
AC Power Cord	5177187	Cart AC Power Cord Australia/New Zealand Class	1	1
	5177187-2		1	1
AC Power Cord	5176907	Cart AC Power Cord United Kingdom and Ireland Class	1	1
AC Power Cord	5177153	Cart AC Power Cord Denmark Class	1	1
AC Power Cord	5176773	Cart AC Power Cord India/South Africa Class	1	1
AC Power Cord	5177195	Cart AC Power Cord Argentina Class	1	1
AC Power Cord	5176753	Cart AC Power Cord Israel Class	1	1
AC Power Cord	5177154	Cart AC Power Cord Switzerland Class	1	1
AC Power Cord	5179423-2	Secondary LCD AC Power Cord, UL marker	1	1
AC Power Cord	5177361-2	Secondary LCD AC Power Cord, VDE marker	1	1
AC Power Cord	5179686-2	Secondary LCD AC Power Cord, CCC marker	1	1
AC Power Cord	5179947-2	Secondary LCD AC Power Cord, PSE marker	1	1
AC Power cord	5199048	DVD using AC Power cord	1	1
AC Power Cord	5199561	General using AC Power Cord	1	1
AC Power Cord	5335947	Docking Cart AC Power Cord 3m Length EUR Class	1	1
AC Power Cord	5325684	AC Adapter and Power Cable Kits	1	1

Section 9-4Operator Console Assy

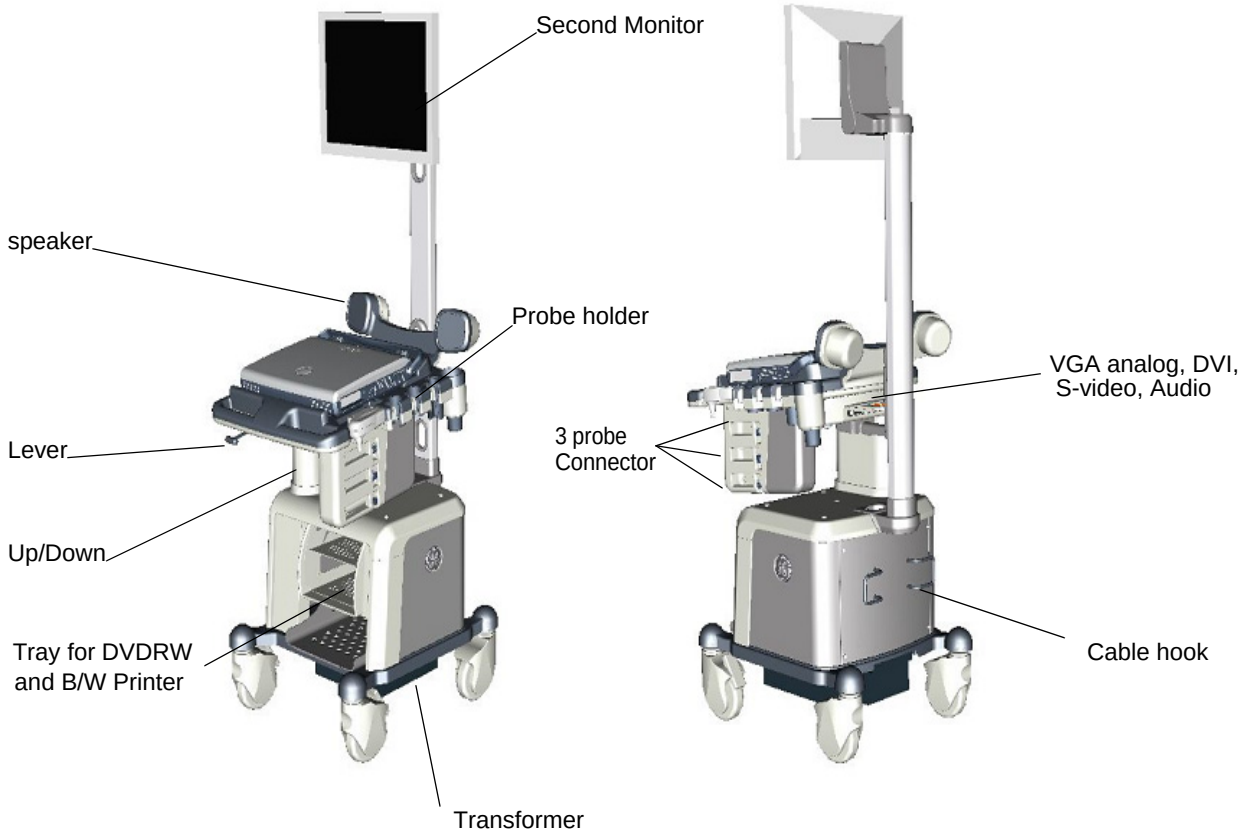

Figure 9-1 Operator Console Assy

Section 9-5 Secondary Monitor

100

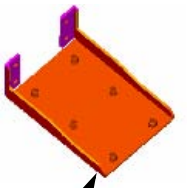

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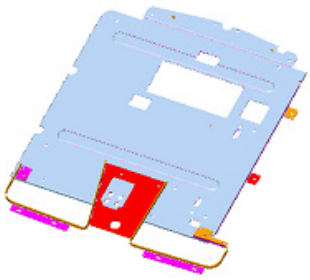
Table 9-3 Second Monitor

Item	Part Name	Part Number	Description	Qty	FRU
100	The secondary Monitor	5260590	The secondary Monitor	1	1
100A	The secondary Monitor	5341913	The secondary Monitor	1	1
101	The secondary Monitor arm ASSY	5192530	The secondary Monitor arm ASSY	1	1
102	Arm support ASSY	5192529	Arm support ASSY	1	1
103	Monitor support space cap Service Kit	5240779	Monitor support space cap Service Kit	1	1
103A	Monitor support space cap	5178534	Monitor support space cap	1	1
103B	Monitor support space cap (Color: GE N9)	5421742	Monitor support space cap	1	1
104	Top support Service kit	5240807	Top support Service kit	1	1
104A	Top support Service kit	5178289	Top support Service kit	1	1
104B	Top support Service kit (Color: GE N9)	5422689	Top support Service kit	1	1

Section 9-6Docking station



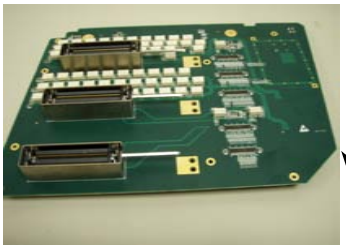
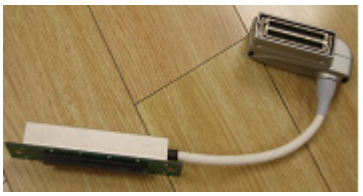


Table 9-4 Docking Station

Item	Part Name	Part Number	Description	Qty	FRU
200	Docking station top cover Service Kit	5240772	Docking station top cover Service Kit	1	1
200A	Docking station top cover Service Kit	5193788	Docking station top cover Service Kit	1	1
200B	Docking station top cover Service Kit (Color: Onyx Black)	5423180	Docking station top cover Service Kit	1	1
201	DS bottom cover Service Kit	5240775	DS bottom cover Service Kit	1	1
201A	DS bottom cover Service Kit (Color: GE N9)	5189819	DS bottom cover Service Kit	1	1
201B	DS bottom cover Service Kit	5422460	DS bottom cover Service Kit	1	1
202	DS inside bracket Service Kit	5240776	DS inside bracket Service Kit	1	1
202A	DS inside bracket Service Kit	5189977	DS inside bracket Service Kit	1	1
203	Docking port PCB Service Kit	5240773	Docking port PCB Service Kit	1	1
203A	Docking port PCB Service Kit	5194433	Docking port PCB Service Kit	1	1
203B	Docking port PCB Service Kit (Color: Onyx Black)	5240773	Docking port PCB Service Kit	1	1
204	DS main PWA Service Kit	5423181	DS main PWA Service Kit	1	1
204A	DS main PWA Service Kit	5193783	DS main PWA Service Kit	1	1
204B	DS main PWA Service Kit (Color: GE N9)	5423191	DS main PWA Service Kit	1	1
205	Three probe PWA service kit	5248629	Three probe PWA service kit	1	1

Section 9-7Probe Holder



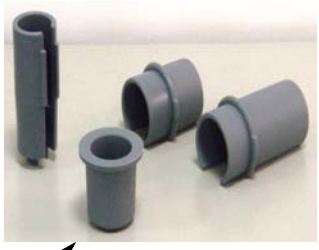
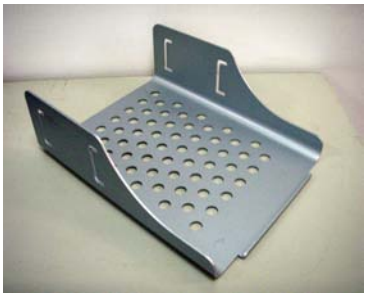


Table 9-5 Probe Holder

Item	Part Name	Part Number	Description	Qty	FRU
300	3-probe box assy	5196144	3-probe box assy	1	1
301	3-probe box left cover Service kit	5244772	3-probe box left cover Service kit	1	1
301A	3-probe box left cover Service kit	5189583	3-probe box left cover Service kit	1	1
301B	3-probe box left cover Service kit (Color: GE N9+Onyx Black)	5422462	3-probe box left cover Service kit	1	1
302	3-probe box right cover Service kit	5244771	3-probe box right cover Service kit	1	1
302A	3-probe box right cover Service kit	5189674	3-probe box right cover Service kit	1	1
302B	3-probe box right cover Service kit (Color: GE N9+Onyx Black)	5422461	3-probe box right cover Service kit	1	1
303	3 Probe Cable Service kit	5240811	3 Probe Cable Service kit	1	1
303A	3 Probe Cable Service kit	5212321	3 Probe Cable Service kit	1	1
303B	3 Probe Cable Service kit (Color: GE N9)	5212321-2	3 Probe Cable Service kit	1	1
304	Probe Cap Service kit	5240810	Probe Cap Service kit	1	1
305	Probe Holder Service Kit	5240778	Probe Holder Service Kit	1	1
305A	Probe Holder Service Kit (Color: Onyx Black)	5240778-2	Probe Holder Service Kit	1	1

Section 9-8Shelf Service



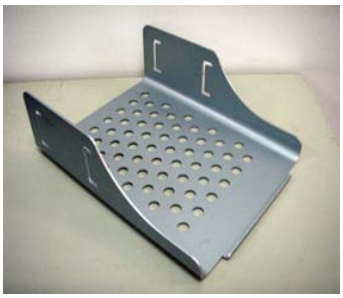


Table 9-6 Service Shelf

Item	Part Name	Part Number	Description	Qty	FRU
400	Peripheral shelf Service kit	5260591	Peripheral shelf Service kit	1	1
400A	Peripheral shelf Service kit	5255345	Peripheral shelf Service kit	1	1
400B	Peripheral shelf Service kit	5255345-2	Peripheral shelf Service kit	1	1
401	DVD/Printer Shelf Service kit	5240794	DVD/Printer Shelf Service kit	1	1
402	Top DVD/Printer Shelf Service kit	5240795	Top DVD/Printer Shelf Service kit	1	1
402A	Top DVD/Printer Shelf Service kit	5257692	Top DVD/Printer Shelf Service kit	1	1
402B	Top DVD/Printer Shelf Service kit	5423171	Top DVD/Printer Shelf Service kit	1	1
403	Storage rack Service kit	5240790	Storage rack Service kit	1	1
404	Support DVD/Printer Shelf Service kit	5240797	Support DVD/Printer Shelf Service kit	1	1
405	UPS Shelf Serive Kit (R5.2.x, R6.x.x and R7.x.x)	5240791	UPS Shelf Serive Kit (R5.2.X, R6.x.x and 7.x.x)	1	1
406	Support shelf with package	5255346	Support shelf with package	1	1
406A	Support shelf with package	5255346-2	Support shelf with package	1	1

Section 9-9Panel and Cabinet

500

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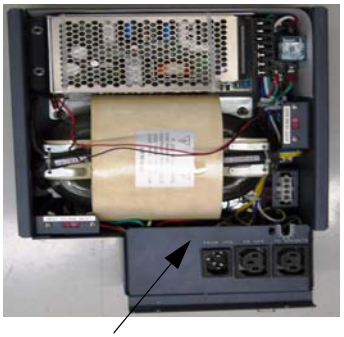
Table 9-7 Panel and Cabinet

Item	Part Name	Part Number	Description	Qty	FRU
500	Rear panel Service assy	5244580	Rear panel Service assy	1	1
501	Right front cabinet Service	5244587	Right front cabinet Service	1	1
502	Left front cabinet Service	5244585	Left front cabinet Service	1	1
503	Top cabinet Service kit	5244583	Top cabinet Service kit	1	1
503A	Top cabinet Service kit	5178235	Top cabinet Service kit	1	1
503B	Top cabinet Service kit	5421741	Top cabinet Service kit	1	1
504	Right side panel Service assy	5244578	Right side panel Service assy	1	1
505	left side panel Service assy	5244579	left side panel Service assy	1	1

Section 9-10Bottom and Wheels



600/601

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Table 9-8 Bottom and Wheels

Item	Part Name	Part Number	Description	Qty	FRU
600	Transformer Service Kit (220V)	5240780	Transformer Service Kit (220V)	1	1
600A	Transformer Service Kit (220V)	5240780-2	Transformer Service Kit (220V)	1	1
601	Transformer Service Kit (110V)	5240781	Transformer Service Kit (110V)	1	1
601A	Transformer Service Kit (110V)	5240781-2	Transformer Service Kit (110V)	1	1
602	USB HUB (without USB cable)	5184951	USB HUB (without USB cable)	1	1
602A	USB HUB (without USB cable)	5184951-2	USB HUB (without USB cable)	1	1
603	Power Strip Service kit	5240784	Power Strip Service kit	1	1
604	Base chassis support Service kit	5252142	Base chassis support Service kit	1	1
605	Rear wheel Service Kit	5240801	Rear wheel Service Kit	1	1
606	Front wheel Service Kit	5240799	Front wheel Service Kit	1	1
607	Security lock	5215494	Security lock	1	1
608	Wheels Change Kit	5296558	The tools for wheels replacement	1	1
609	Rear castor	5191914	Rear castor	1	1
609A	Black White Rear castor N125 from Secure	5443853	Black White Rear castor N125 from Secure	1	1
610	Front castor	5191345	Front castor	1	1
610A	Black White Front castor N125 from Secure	5454032	Black White Front castor N125 from Secure	1	1

Section 9-11Accessories and Kits

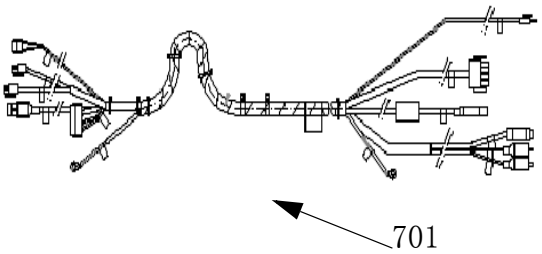

Table 9-9 Accessories and Kits

Item	Part Name	Part Number	Description	Qty	FRU
700	Screw and Washers kits	5240786	Screw and Washers kits	1	1
701	Cable collector assy	5215212	Cable collector assy	1	1
702	Docking Ribbon Cable 100Pin	5181241	Docking Ribbon Cable 100Pin	1	1
703	DVI Cable	5217199	DVI Cable	1	1
704	Signal Cable Service kit	5240803	Signal Cable Service kit	1	1
705	DVD Recorder (LQ-MD800P,120V)	5120592	DVD Recorder	1	1
706	DVD Recorder (LQ-MD800P,220V)	5120593	DVD Recorder	1	1
707	UPS (For Software R5.2.x, R6.x.x and 7.x.x)	5196756	UPS (For Software R5.2.x, R6.x.x and 7.x.x)	1	1
707A	UPS LTB-300W with shelf	5413485	UPS (For Software R5.2.x, R6.x.x and 7.x.x)	1	1
708	Split Cable	5322230	Split Cable	1	1

Section 9-12Speaker

Table 9-10 Speaker

Item	Part Name	Part Number	Description	Qty	FRU
801	Speaker Service kit	5240774	Speaker Service kit	1	1

Section 9-13Gas spring and Gas Spring Lever

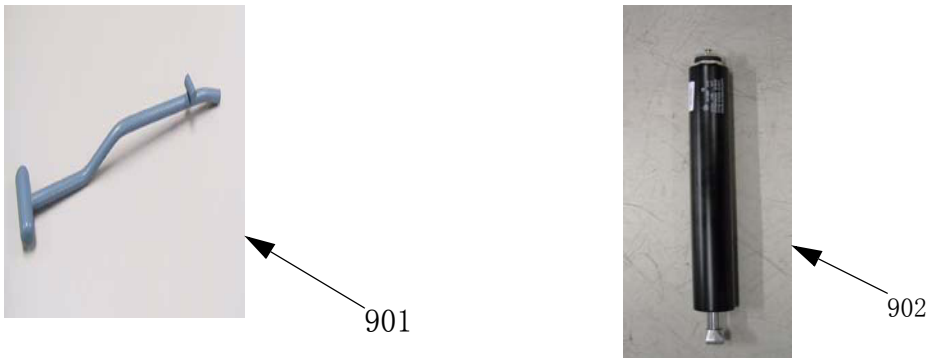

Table 9-11 Gas Spring and Gas Spring Lever

Item	Part Name	Part Number	Description	Qty	FRU
901	Gas spring lever Service kit	5240782	Gas spring lever Service kit	1	1
901	Gas spring lever Service kit	5189654	Gas spring lever Service kit	1	1
901A	Gas spring lever Service kit	5423168	Gas spring lever Service kit	1	1
902	Gas spring Service kit	5245175	Gas spring Service kit	1	1
902A	Gas spring Service kit	5178838	Gas spring Service kit	1	1
902A	Gas spring Service kit	5178838-2	Gas spring Service kit	1	1

Section 9-14Touch Panel and Arm (For Software Version R5.2.x, R6.x.x and R7.x.x)

1001

1002

1003

1004

1005

1005

1009

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1011

1012

Section 9-14 Touch Panel and Arm (For Software Version R5.2.x, R6.x.x and R7.x.x) (cont'd)

Table 9-12 Touch Panel ans Arm (For Software Version R5.2.x, R6.x.x and R7.x.x

Item	Part Name	Part Number	Description	Qty	FRU
1001	Touch Screen	5324779	Touch Screen(15" 1024 x 768)	1	1
1001A	Touch Screen	5311885	Touch Screen(15" 1024 x 768)	1	1
1002	Flexible Arm for Service	5317190	Flexible Arm for Service	1	1
1003	Vertical arm for Touch Screen	5324763	Vertical arm for Touch Screen (The Arm is assorted with Flexible Arm)	1	1
1004	Panel Decorative Rear Cover for Service	5317192	Panel Decorative Rear Cover for Service	1	1
1005	Plastic Cover for Flexible Arm	5317204	Panel Decorative Rear Cover for Service	1	1
1006	USB Cable for Touch Screen	5317197	USB Cable for Touch Screen	1	1
1007	USB Cable for Touch Screen	5323282-2	USB Cable for Touch Screen	1	1
1008	Power Cord for Touch Screen	5317200	Power Cord for Touch Screen	1	1
1009	Cable clip for Touch Screen	5322229	Cable clip for Touch Screen	1	1
1010	Cable tie Kit	5340266	Cable tie Kit	1	1
1011	Articulatory arm assy	5308173-2	Articulatory arm assy (Double arms)	1	1
1012	Vertical arm assy	5311620-2	Short Vertical arm assy (The Arm is assorted with Articulatory arm)	1	1

Chapter 10
Care & Maintenance

Section 10-1
Overview

10-1-1 Periodic Maintenance Inspections

It has been determined by engineering that your Docking Cart system does not have any high wear components that fail with use, therefore no Periodic Maintenance Inspections are mandatory. Some Customers Quality Assurance Programs may require additional tasks and or inspections at a different frequency than listed in this manual.

10-1-2 Purpose of Chapter 10

This chapter describes **Care & Maintenance** on Docking Cart and peripherals. These procedures are intended to **maintain the quality** of Docking Cart **systems performance**. Read this chapter completely and familiarize yourself with the procedures before performing a task.

Table 10-1 Contents in Chapter 10

Section	Description	Page Number
10-1	Overview	10-1
10-2	Why do Maintenance	10-2
10-3	Maintenance Task Schedule	10-2
10-4	Tools Required	10-4
10-5	When There's Too Much Leakage Current...	10-15

CAUTION **Practice good ESD prevention. Wear an anti–static strap when handling electronic parts and even when disconnecting/connecting cables.**

DANGER **THERE ARE SEVERAL PLACES ON THE BACKPLANE, THE AC DISTRIBUTION, AND DC DISTRIBUTION THAT ARE DANGEROUS. BE SURE TO DISCONNECT THE SYSTEM POWER PLUG AND OPEN THE MAIN CIRCUIT BREAKER BEFORE YOU REMOVE ANY PARTS. BE CAUTIOUS WHENEVER POWER IS STILL ON AND COVERS ARE REMOVED.**

CAUTION **Do not pull out or insert circuit boards while power is ON.**

CAUTION **Do not operate this unit unless all board covers and frame panels are securely in place. System performance and cooling require this.**

Section 10-2
Why do Maintenance

10-2-1 Keeping Records

It is good business practice that ultrasound facilities maintain records of quality checks and corrective maintenance. The Ultrasound Inspection Certificate (provided on page 10-16) provides the customer with documentation that the ultrasound scanner is maintained on a periodic basis.

A copy of the Ultrasound Periodic Maintenance Inspection Certificate should be kept in the same room or near the scanner.

10-2-2 Quality Assurance

In order to gain accreditation from organizations such as the American College of Radiology (USA), it is the customer's responsibility to have a quality assurance program in place for each scanner. The program must be directed by a medical physicists, the supervising radiologist/physician or appropriate designee.

Routine quality control testing must occur regularly. The same tests are performed during each period so that changes can be monitored over time and effective corrective action can be taken.

Testing results, corrective action and the effects of corrective action must be documented and maintained on the site.

Your GE service representative can help you with establishing, performing and maintaining records for a quality assurance program. Please contact us for coverage information and/or price for service.

Section 10-3
Maintenance Task Schedule

10-3-1 How often should care & maintenance tasks be performed?

The Care & Maintenance Task Schedule (provided on page 10-3) specifies how often your Docking Cart should be serviced and outlines items requiring special attention.

NOTE: It is the customer's responsibility to ensure the Docking Cart care & maintenance is performed as scheduled in order to retain its high level of safety, dependability and performance.

Your GE Service Representative has an in-depth knowledge of your Docking Cart ultrasound scanning system and can best provide competent, efficient service. Please contact us for coverage information and/or price for service.

The service procedures and recommended intervals shown in the Care & Maintenance Task Schedule assumes that you use your Docking Cart for an average patient load (10-12 per day) and not use it as a primary mobile unit which is transported between diagnostic facilities.

NOTE: If conditions exist which exceed typical usage and patient load, then it is recommended to increase the maintenance frequencies.

Table 10-2 Customer Care Schedule

Service at Indicated Time	Daily	Weekly	Monthly	Per Facilities QA Program	Notes
Clean Probe Holders	•				
Clean Air Filter		•			more frequently depending on your environment
Inspect AC Mains Cable			•		Mobile Unit Check Weekly
Inspect Cables and Connectors			•		
Clean Console			•		
Inspect Wheels, Casters, brakes and Swivel Locks			•		Mobile Unit Check Daily
Check Control Panel Movement			•		Mobile Unit Check Daily
Console Leakage Current Checks				•	also after corrective maintenance
Peripheral Leakage Current Checks				•	also after corrective maintenance
Surface Probe Leakage Current Checks				•	also after corrective maintenance
Endocavity Probe Leakage Current Checks				•	also after corrective maintenance
Transesphongeal Probe Leakage Current Checks				•	also after corrective maintenance
Surgical Probe Leakage Current Checks				•	also after corrective maintenance
Functional Checks				•	also after corrective maintenance

Section 10-4
Tools Required

10-4-1 Standard GE Tool Kit

The following is a description of the “Standard” GE tool kit in the USA. Not all tools are required for PMs.

Table 10-3 Overview of GE-1 Tool Kit Contents

Tool ID	Description	Tool ID	Description
9-45358	Pliers Retaining Ring	9-XL9971MM	Xcelite-hex Blade 1.27mm
9-4078	Scribe	9-XL9972MM	Xcelite-hex Blade 1.5mm
9-44572	Wrench Open End 3/8 - 7/16	9-XL9973MM	Xcelite-hex Blade 2 mm
9-44579	Wrench Open End 1/2 - 9/16	9-XL9974MM	Xcelite-hex Blade 2.5mm
9-44579	Wrench Open End 1/2 - 9/16	9-XL9975MM	Xcelite-hex Blade 3mm
9-45385	Pliers, Arc Joint 7 inch	9-XL9976MM	Xcelite-hex Blade 4mm
9-45378	Pliers, Slip Joint	9-XL9977MM	Xcelite-hex Blade 5mm
9-4518	Pliers, Long Nose, Miniature	9-XL991CM	Handle
9-4518	Pliers, Long Nose, Miniature	C2356E	Screw starter - Kedman Quick Wedge
9-44776	Ignition Wrench Set, 10 pc.	BLBO	Box - 18 Compartment
9-44601	Wrench, Adj., 4 inch	DWL4283T	Box - 5 Compartment
9-4151	Screwdriver, Blade, Stubby	9-41322	Pickup Tool, Claw type
9-41421	Screwdriver, Blade, Pocket clip	9-6757	6 pc Needle File Set
9-41594	Screwdriver, Blade 1/8 in. x 4 in.	9-9487	Utility Knife
9-41581	Screwdriver, Blade 3/16 in. x 4 in.	9-45341	Pliers Vice Grip 10 inch
9-39451	20' Steel Tape, locking Spring load	9-3001	Xacto Pen Knife
9-GH807	Ratchet, Offset, Slotted	9-HT62002	Solder Aid, Fork and Hook
68-412	Ratchet, Offset, Phillips	9-4099	Mirror, Round, Telescoping
9-GH130	Tapered Reamer	9-GH3001	Steel Rule Decimal 6 inch
9-41584	Screwdriver, slotted 1/4 in.X 6 in.	9-GH300ME	Steel Rule Metric 6 inch
9-4118	Screwdriver, Phillips #2, Stubby	9-XL9920	Xcelite-hex Blade.050 inch
9-41293	Screwdriver, Phillips #0	9-XL9921	Xcelite-hex Blade 1/16 inch
9-41294	Screwdriver, Phillips #1	9-XL9922	Xcelite-hex Blade 5/16 inch
9-41295	Screwdriver, Phillips #2	9-XL9923	Xcelite-hex Blade 3/32 inch
9-46677	Hex Keys, 20 pc., Metric	9-XL9924	Xcelite-hex Blade 1/8 inch
9-34701	1/4 in. Standard.Socket set (19 pc)	9-XL9925	Xcelite-hex Blade 5/32 inch
9-43499	1/2 inch Socket 1/4 inch drive	9-XL9926	Xcelite-hex Blade 3/16 inch
9-4355	Flex Spinner	9-XL99764	Xcelite-hex Blade 7/64
9-43523	Breaker	9-XL99964	Xcelite-hex Blade 9/64
9-43531	6 inch Ext.	9-XLM60	Mini-screwdriver kit

Table 10-3 Overview of GE-1 Tool Kit Contents (Continued)

Tool ID	Description	Tool ID	Description
9-65283	Case 8.5 in. x 4.5 in. x 2 in. Deep	9-45072	Pliers 6 inch Diagonal
9-46696	Hex Keys	9-XL100X	Wire Stripper/Cutter 5 inch - 100X
9-39829	Torpedo Level, Magnetic	9-XL87CG	Pliers - very fine needle nose-87CG
9-38461	Hammer, Ball Peen, 4 oz	9-WEWDT-07	Weller-Soldering-Replacement Tip(1)
9-4280	Universal Joint 1/4 inch	9-WS175-E	Wiss - Surgical Scissors
9-WEW60P3	Weller - Soldering Iron, 3 wire	KH174	Hemostat 5 inch Straight
9-WECT5B6	Weller - Soldering Iron Tip	KH175	Hemostat 5 inch curved
9-WEWDP12	Weller - Desoldering Pump	9-Z9480121	Alignment tool (red)
93383	Flashlight Mini-Mag Lite (AAA Bat.)		
9-GH408	Tweezers		
21576	Brush - Bristle		
9-4516	Pliers 4 1/4 inch Diagonal		

Table 10-4 Overview of GE-2 Tool Kit Contents

GE-2 Sears Kit (#99034)			
Tool ID	**Description**	**Tool ID**	**Description**
9-45381	Pliers, Arc Joint 9 1/2 inch	9-44067	Socket 1 1/16 in. for 1/2 in. drive
9-45092	Pliers, Linesman 8 1/2 inch	9-42679	Socket 10MM Hex for 1/2 in. drive (2273333)
9-42882	Punch, Pin 3/32 inch	9-44262	Extension 10 inch for 1/2 in. drive (2273405)
9-42884	Punch, Pin 5/32 inch	9-4258	3/8 inch to 1/2 inch Adapter
9-42886	Punch, Pin 1/4 inch	9-34374	3/8 inch Metric Socket Set - 12 PT
9-42973	Cold Chisel 1/2 inch	9-44311	16mm Socket 12 pt.
9-GH77	Center Punch Automatic	9-33485	Metal Socket Tray
9-GH890	File Handle, Adj.	9-33484	Metal Socket Tray
9-31276	File, Round, Bastard 8 inch	9-33484	Metal Socket Tray
9-31277	File, Half Round, Bastard 8 inch	9-52068	Tap and Drill Set
9-31263	File, Flat Mill 8 inch	9-52722	#6 Tap
21045C	Close Quarter Saw	9-52723	#8 Tap
9-44604	Wrench, Adj 10 inch		High Speed Drill Set
9-41587	Screwdriver 5/16 inch x 8 inch		#36 Drill
9-41586	Screwdriver, Stubby 5/16 inch		#29 Drill
9-GH19512	Countersink 1/2 inch	9-44046	3/8 inch Socket Set
9-44741	12 PC Combination Wrench Set		

10-4-2 Special Tools, Supplies and Equipment

10-4-2-1 Specific Requirements for Care & Maintenance

Table 10-5 Overview of Requirements for Care & Maintenance

Tool	Part Number	Comments
Digital Volt Meter (DVM)		
Leakage Current Ultrasound Kit	2113015	For 120V and 220V Units
Anti Static Kit	46–194427P231 46–194427P279 46–194427P369 46–194427P373 46–194427P370	Kit includes anti–static mat, wrist strap and cables for 200 to 240 V system 3M #2204 Large adjustable wrist strap 3M #2214 Small adjustable wrist strap 3M #3051 conductive ground cord
Anti Static Vacuum Cleaner	46–194427P278 46–194427P279	120V 230V
Air Filter		air intake
Safety Analyzer		The safety Analyzer tool should be calibrated and compliant with AAMI/ESI 1993 or IEC 60601 or AS/NZS 3551.
SVHS VCR Cassette	E7010GG E7010GF	60 minute 120 minute
SVHS VCR Head Cleaner		See VCR user manual for requirements
CD-RW Media		For Docking Cart
B/W Printer Cleaning Sheet		See printer user manual for requirements
Color Printer Cleaning Sheet		See printer user manual for requirements
Disposable Gloves		

10-4-3 Input Power

10-4-3-1 Mains Cable Inspection

Table 10-6 Mains Cable Inspection

Step	Item	Description
1	Unplug Cord	Disconnect the mains cable from the wall and system.
2	Inspect	Inspect it and its connectors for damage of any kind.
3	Verify	Verify that the LINE, NEUTRAL and GROUND wires are properly attached to the terminals, and that no strands may cause a short circuit.
4	Verify	Inlet connector retainer is functional.

10-4-4 Cleaning

10-4-4-1 General Cleaning

Table 10-7 General Cleaning

Step	Item	Description
1	Console	Use a fluid detergent in warm water on a soft, damp cloth to carefully wipe the entire system. Be careful not to get the cloth too wet so that moisture does not enter the console.
2	Probe Holder	Clean probe holders (they may need to be soaked to remove excess gel).

NOTE: For your convenience or of the air filter is too dirty, replacement filters are available. refer to Chapter 9 for the air filter replacement part number.

10-4-5 Physical Inspection

Table 10-8 Physical Checks

Step	Item	Description
1	Labeling	Verify that all system labeling is present and in readable condition. refer to the Docking Cart User Manual for details.
2	Scratches & Dents	Inspect the console for dents, scratches or cracks.
3	Wheels & Brakes	Check all wheels and casters for wear and verify operation of foot brake, to stop the unit from moving, and release mechanism. Check all caster locks and caster swivel locks for proper operation.
4	Cables & Connectors	Check all internal cable harnesses and connectors for wear and secure connector seating. Pay special attention to footswitch assembly and probe strain or bend reliefs.
5	Shielding & Covers	Check to ensure that all EMI shielding, internal covers, air flow panels and screws are in place. Missing covers and hardware could cause EMI/RFI problems while scanning.
6	External I/O	Check all connectors for damage and verify that the labeling is good.
7	Op Panel Lights	Check for proper operation of all operator panel and TGC lights.
8	Monitor Light	Check for proper operation of any monitor lights if available.
9	External Microphone	Check for proper operation of any external microphones by recording an audio test.

10-4-6 Outlet Test - Wiring Arrangement - USA & Canada

Test all outlets in the area for proper grounding and wiring arrangement by plugging in the neon outlet tester and noting the combination of lights that are illuminated. Any problems found should be reported to the hospital immediately and the receptacle should not be used.

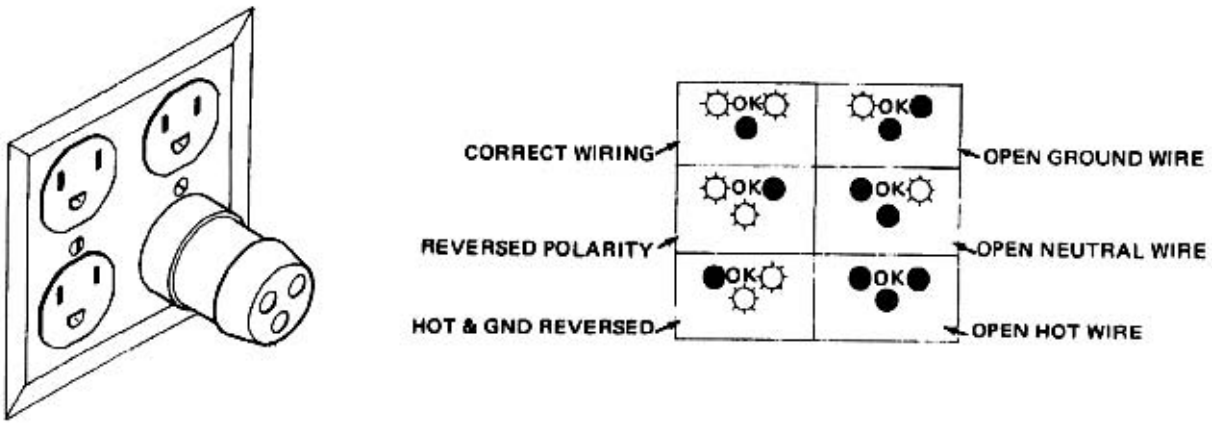

Figure 10-1 Typical Outlet Tester

NOTE: No outlet tester can detect the condition where the Neutral (grounded supply) conductor and the Grounding (protective earth) conductor are reversed. If later tests indicate high leakage currents, this should be suspected as a possible cause and the outlet wiring should be visually inspected.

10-4-7 Grounding Continuity

CAUTION Electric Shock Hazard. The patient must not be contacted to the equipment during this test

Measure the resistance from the third pin of the attachment plug to the exposed metal parts of the case. The ground wire resistance should be less than **0.2** ohms. reference the procedure in the IEC 601-1.1.

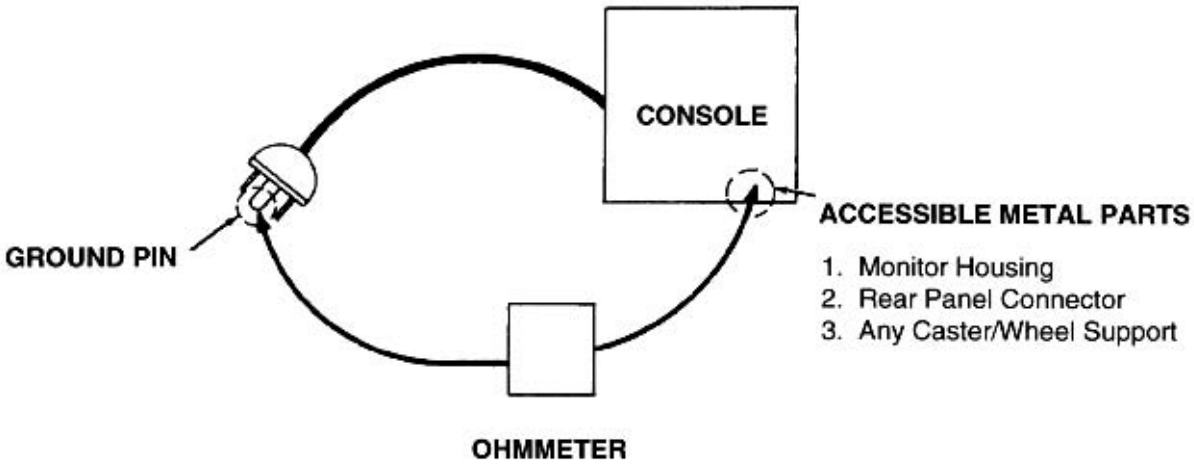

Figure 10-2 Ground Continuity Test

10-4-7-1 Meter Procedure

Follow these steps to test the ground wire resistance.

1.) Turn the Docking Cart unit OFF.
2.) Plug the unit into the meter, and the meter into the tested AC wall outlet.
3.) Plug the black chassis cable into the meter's “CHASSIS” connector and attach the black chassis cable clamp to an exposed metal part of the Docking Cart unit.
4.) Set the meter's “FUNCTION” switch to the RESISTANCE position.
5.) Set the meter's “POLARITY” switch to the OFF (center) position.
6.) Measure and record the ground wire resistance.

10-4-8 Chassis Leakage Current Test

10-4-8-1 Definition

This test measures the current that would flow in a grounded person who touched accessible metal parts of the bedside station if the ground wire should break. The test verifies the isolation of the power line from the chassis. The meter is connected from accessible metal parts of the case to ground. Measurements should be made with the unit On and Off, with the power line polarity Normal and Reversed. Record the highest reading.

.

CAUTION **Electric Shock Hazard. When the meter's ground switch is OPEN, don't touch the unit!**

CAUTION **Equipment damage possibility. Never switch the Polarity and the status of Neutral when the unit is powered ON. Be sure to turn the unit power OFF before switching them using the POLARITY switch and/or the NEUTRAL switch. Otherwise, the unit may be damaged.**

10-4-8-2 Generic Procedure

The test verifies the isolation of the power line from the chassis. The testing meter is connected from accessible metal parts of the case to ground. Measurements should be made with the unit ON and OFF, with the power line polarity Normal and Reversed. Record the highest reading of current.

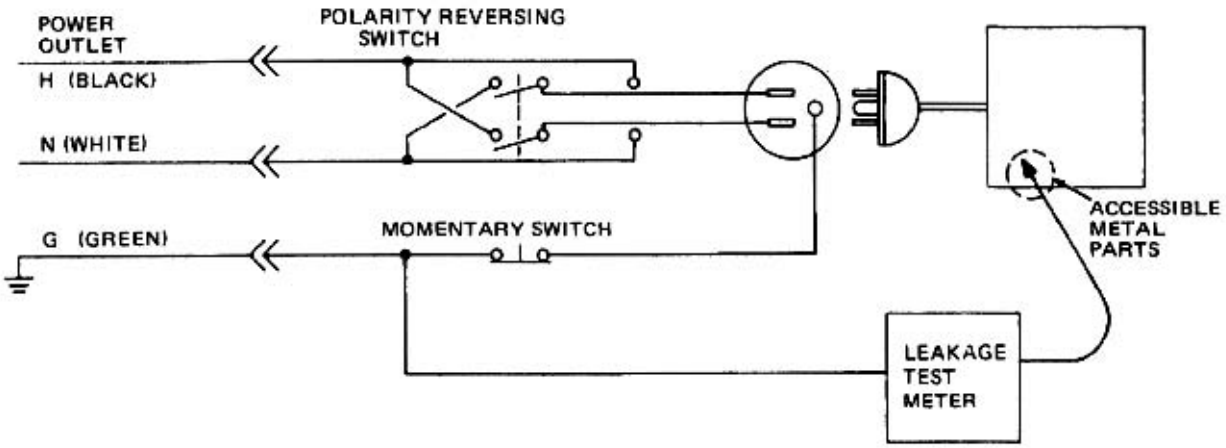

Figure 10-3 Set Up for Chassis Source Leakage Current, IEC 601-1 Clause 19 - Continuos Leakage Currents and Patient, Auxiliary Currents

When using the Microguard or a similar test instrument, its power plug may be inserted into the wall outlet and the equipment under test is plugged into the receptacle on the panel of the meter. This places the meter in the grounding conductor and the current flowing from the case to ground will be indicated in any of the current ranges. The maximum allowable limit for chassis source leakage is shown in Table 10-2.

10-4-9 Isolated Patient Lead (Source) Leakage–Lead to Lead

Refer to the procedure in the IEC 60601-1.

10-4-10 Isolated Patient Lead (Sink) Leakage-Isolation Test

Refer to the procedure in the IEC 60601-1.

⚠ **CAUTION** **Line voltage is applied to the ECG leads during this test. To avoid possible electric shock hazard, the system being tested must not be touched by patients, users or anyone while the ISO TEST switch is depressed.**

NOTE: It is not necessary to test each lead individually or power condition combinations as required in previous tests.

10-4-10-1 Data Sheet for ECG Leakage Current

The test passes when all readings measure less than the value shown in the table below. Record all data on the PM Inspection Certificate.

Table 10-9 Maximum Allowance Limit for ECG Leakage Current

	AC Power Source	Maximum Allowance Limit	
		GROUND OPEN	GROUND CLOSED
Patient Lead to Ground Leakage Current Test	115V	10uA	10uA
and Patient Lead to Lead Leakage Current Test	220/240V	500uA	10uA

Table 10-10 Maximum Allowance Limit for ECG Leakage Current

	AC Power Source	Maximum Allowance Limit
Patient Lead Isolation Current Test	115V	20uA
	220/240V	5mA

Table 10-11 Typical Data Sheet for ECG Leakage Current

ECG Power	Tester Polarity Switch	Tester Ground Switch	Tester Lead Selector				
			RL	RA	LA	LL	C
ON	NORM	CLOSED					
ON	REVERSE	CLOSED					
ON	NORM	OPEN					
ON	REVERSE	OPEN					
OFF	NORM	CLOSED					
OFF	REVERSE	CLOSED					
OFF	NORM	OPEN					
OFF	REVERSE	OPEN					

10-4-11 Probe Leakage Current Test

10-4-11-1 Definition

This test measures the current that would flow to ground from any of the probes through a patient who is being scanned and becomes grounded by touching some other grounded surface.

10-4-11-2 Generic Procedure

Measurements should be made with the ground open and closed, with power line polarity normal and reversed, and with the unit Off and On. For each combination, the probe must be active to find the worst case condition.

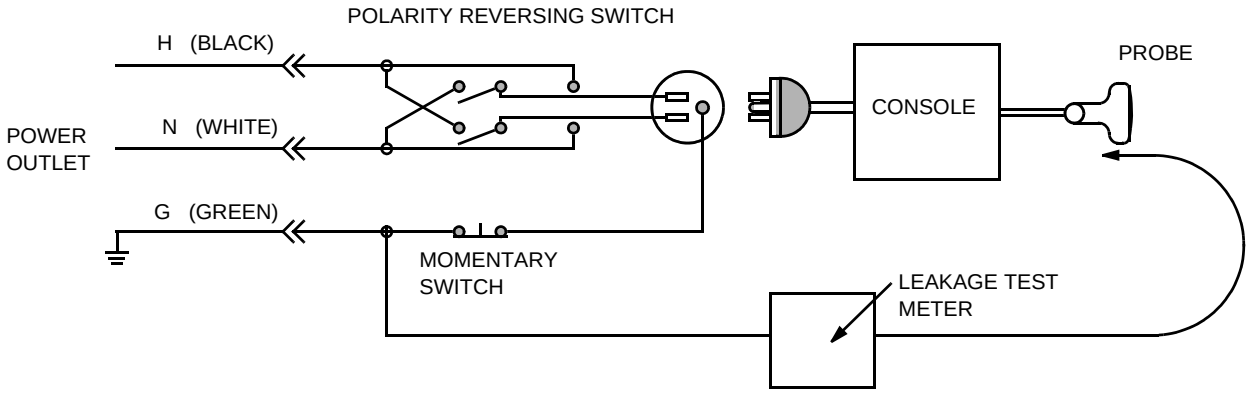

Figure 10-4 Set Up for Probe Leakage Current

NOTE: Each probe will have some amount of leakage current, dependent on its design. Small variations in probe leakage currents are normal from probe to probe. Other variations will result from differences in line voltage and test lead placement.

10-4-11-3 Meter Procedure Using Probe Adapter

Follow the Safety Analyzer tool instruction to test each transducer for leakage current.

The electrical Safety Analyzer tool should be calibrated and compliant with AAMI/ESI 1993 or IEC 60601 or AS/NZS 3551.

10-4-11-4 No Meter Probe Adapter Procedure

Follow the Safety Analyzer tool instruction to test each transducer for leakage current.

The electrical Safety Analyzer tool should be calibrated and compliant with AAMI/ESI 1993 or IEC 60601 or AS/NZS 3551.

10-4-11-5 Data Sheet for Transducer Source Leakage Current

The test passes when all readings measure less than the values. Record all data on the PM Inspection Certificate.

CAUTION **Equipment damage possibility. Never switch the Polarity and the status of Neutral when the unit is powered ON. Be sure to turn the unit power OFF before switching them using the POLARITY switch and/or the NEUTRAL switch. Otherwise, the unit may be damaged**

.

Table 10-12 Typical Data Sheet For Transducer Source Leakage Current

Transducer Tested:			
Unit Power	**Tester Power Polarity Switch**	**Tester GROUND or NEUTRAL Switch**	**Measurement**
ON	NORM	OPEN	
ON	NORM	CLOSED	
ON	REV	OPEN	
ON	REV	CLOSED	
OFF	NORM	OPEN	
OFF	NORM	CLOSED	
OFF	REV	OPEN	
OFF	REV	CLOSED	

Section 10-5
When There's Too Much Leakage Current...

CHASSIS FAILS

Check the ground on the power cord and plug for continuity. Ensure the ground is not broken, frayed, or intermittent. Replace any defective part.

Tighten all grounds. Ensure star washers are under all ground studs.

Inspect wiring for bad crimps, poor connections, or damage.

Test the wall outlet; verify it is grounded and is free of other wiring abnormalities. Notify the user or owner to correct any deviations. As a work around, check the other outlets to see if they could be used instead.

NOTE: No outlet tester can detect the condition where the white neutral wire and the green grounding wire are reversed. If later tests indicate high leakage currents, this should be suspected as a possible cause and the outlet wiring should be visually inspected.

PROBE FAILS

Test the probe in another connector to isolate if the fault lies with the probe or the scanner.

NOTE: Each probe will have some amount of leakage, dependent on its design. Small variations in probe leakage currents are normal from probe to probe. Other variations will result from differences in line voltage and test lead placement. The maximum allowable leakage current for body surface contact probe differs from inter-cavity probe. Be sure to enter the correct probe type in the appropriate space on the check list.

If excessive leakage current is slot dependent, inspect the system connector for bent pins, poor connections, and ground continuity.

If the problem remains with the probe, replace the probe.

PERIPHERAL FAILS

Tighten all grounds. Ensure star washers are under all ground studs.

Inspect wiring for bad crimps, poor connections, or damage.

STILL FAILS

If all else fails, begin isolation by removing the probes, external peripherals, then the on board ones, one at a time while monitoring the leakage current measurement.

NEW UNIT

If the leakage current measurement tests fail on a new unit and if situation can not be corrected, submit a Safety Failure Report to document the system problem. Remove unit from operation.

ECG FAILS

Inspect cables for damage or poor connections.

ULTRASOUND INSPECTION CERTIFICATE

Customer Name:		System ID:	Dispatch Number / Date Performed:	Warranty/Contract/HBS
System Type		Model Number:	Serial Number:	Manufacture Date:
Probe 1:	Frequency:	Scan Format*:	Model Number:	Serial Number:
Probe 2:	Frequency:	Scan Format*:	Model Number:	Serial Number:
Probe 3:	Frequency:	Scan Format*:	Model Number:	Serial Number:
Probe 4:	Frequency:	Scan Format*:	Model Number:	Serial Number:
Probe 5:	Frequency:	Scan Format*:	Model Number:	Serial Number:
Probe 6:	Frequency:	Scan Format*:	Model Number:	Serial Number:
Probe 7:	Frequency:	Scan Format*:	Model Number:	Serial Number:
Probe 8:	Frequency:	Scan Format*:	Model Number:	Serial Number:
Probe 9:	Frequency:	Scan Format*:	Model Number:	Serial Number:

* Scan Format: Phased Array, Linear Array, Curved Array, Mechanical Array or Other

FUNCTIONAL CHECKS

Functional Check (if applicable)	OK? or N/A
B-Mode Function	
Doppler Modes Function	
CF-Mode Function	
M-Mode Function	
Applicable Software Options	
Applicable Hardware Options	
Control Panel	
Monitor	
Touch Panel	
Measurement Accuracy	
GE Approved Peripherals	

PHYSICAL INSPECTION AND CLEANING

Physical Inspection and Cleaning (if applicable)	Inspect	Clean
Console		
Monitor		
Touch Panel		
Air Filter		
Probe Holders		
External I/O		
Wheels, Brakes & Swivel Locks		
Cables and Connectors		
GE Approved Peripherals (VCR, CD-RW, MOD, Printers)		

COMMENTS:

_____

_____

_____

_____

ELECTRICAL SAFETY

Electrical Test Performed	Max Value Allowed	Value Measured	OK?	Comments
Outlet (correct ground &wiring config.)				
System Ground Continuity				
Chassis Source Leakage Current - Probe				
Chassis Source Leakage Current - Caster				
Chassis Source Leakage Current - CRT				
Patient Lead Source Leakage (Lead to Ground)				
Patient Lead Source Leakage (Lead to Lead)				
Patient Lead Source Leakage (Isolation)				
Peripheral 1 Leakage Current				
Peripheral 1Ground Continuity				
Peripheral 2 Leakage Current				
Peripheral 2Ground Continuity				
Peripheral 3 Leakage Current				
Peripheral 3Ground Continuity				
PROBES				
Probe Number (from previous page)	**Max Value Allowed**	**Max Value Measured**	**OK?**	**Comments**
Probe 1:				
Probe 2:				
Probe 3:				
Probe 4:				
Probe 5:				
Probe 6:				
Probe 7:				
Probe 8:				
Probe 9:				

Final Check. All system covers are in place. System scans with all probes as expected.

Accepted by: _____

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